

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the Department, based on an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from State of California personal income taxes. In the further opinion of Bond Counsel, interest on the Series A Bonds is not a specific preference item for purposes of the federal alternative minimum tax. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the Series A Bonds. See “TAX MATTERS” herein.



\$204,255,000
DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES
Water System Revenue Bonds
2020 Series A

Dated: Date of Delivery

Due: As shown on inside front cover

This cover page contains certain information for general reference only. It is not intended to be a summary of the security or terms of this issue. Investors are advised to read the entire Official Statement to obtain information essential to the making of an informed investment decision. Capitalized terms used on this cover page not otherwise defined will have the meanings set forth herein.

The Department of Water and Power of the City of Los Angeles Water System Revenue Bonds, 2020 Series A (the “Series A Bonds”) are being issued by the Department of Water and Power of the City of Los Angeles (the “Department”) to provide funds to pay costs of capital improvements to the Water System, refund the Refunded Bonds, prepay the Prepaid State Loans, and pay certain costs of issuance of the Series A Bonds. See “PLAN OF FINANCE” and “APPLICATION OF PROCEEDS.”

Interest on the Series A Bonds is payable on each January 1 and July 1, commencing January 1, 2021.

The Series A Bonds will be dated the date of original delivery and will mature in the principal amounts and in the years and bear interest at the respective rates of interest per annum, all as set forth on the inside front cover. The Series A Bonds will be issued in fully registered form and will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York (“DTC”). Individual purchases of interests in the Series A Bonds will be made in book-entry form only, in the principal amount of \$5,000 or any integral multiple thereof. Purchasers of such interests will not receive physical certificates representing their interests in the Series A Bonds purchased. Principal of and interest on the Series A Bonds are payable directly to DTC by the Treasurer of the City of Los Angeles, as fiscal agent. Upon receipt of such payments, DTC is obligated in turn to remit such payments to the DTC Participants for subsequent disbursement to the Beneficial Owners of the Series A Bonds, as described herein. Beneficial Owners’ rights will be governed as to such payments, the receipt of notices (including any notice of redemption) and other communications and various other matters by the rules and operating procedures applicable to the DTC book-entry system, as described herein. Beneficial interests in the Series A Bonds may be held through DTC, directly as a participant or indirectly through organizations that are participants in such systems. See “APPENDIX C—DTC BOOK-ENTRY SYSTEM.”

The Series A Bonds are subject to optional and mandatory sinking fund redemption prior to maturity as described herein. See “THE SERIES A BONDS—Redemption of Series A Bonds.”

The Series A Bonds will be special obligations of the Department payable only from the Water Revenue Fund and not out of any other fund or moneys of the Department or the City of Los Angeles (the “City”). The Series A Bonds will not constitute or evidence an indebtedness of the City or a lien or charge on any property or the general revenues of the City. Neither the faith and credit nor the taxing power of the City will be pledged to the payment of the Series A Bonds. See “SOURCE OF PAYMENT.”

The Series A Bonds are offered when, as and if issued by the Department and received by the Underwriters, subject to the approval of validity by Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the Department, and to certain other conditions. Certain legal matters will be passed upon for the Department by the Office of the City Attorney of the City and by Kutak Rock LLP, Disclosure Counsel to the Department, and for the Underwriters by Hawkins Delafield & Wood LLP. It is expected that the Series A Bonds, in definitive form, will be available for delivery through the facilities of DTC, on or about July 1, 2020.

Wells Fargo Securities

FHN Financial Capital Markets

Jefferies

Loop Capital Markets

Raymond James

MATURITY SCHEDULE

\$204,255,000
Department of Water and Power of the City of Los Angeles
Water System Revenue Bonds
2020 Series A

Maturity Date (July 1)	Principal Amount	Interest Rate	Yield	Price	CUSIP [†] No.
2021	\$ 3,695,000	5.000%	0.140%	104.854	544525YS1
2022	3,885,000	5.000	0.150	109.681	544525YT9
2023	3,505,000	5.000	0.190	114.382	544525YU6
2024	3,100,000	5.000	0.250	118.893	544525YV4
2025	3,265,000	5.000	0.330	123.139	544525YW2
2026	3,435,000	5.000	0.460	126.837	544525YX0
2027	3,615,000	5.000	0.580	130.277	544525YY8
2028	3,805,000	5.000	0.670	133.673	544525YZ5
2029	3,840,000	5.000	0.720	137.233	544525ZA9
2035	1,835,000	5.000	1.320	134.368 ^C	544525ZB7
2036	2,790,000	5.000	1.370	133.815 ^C	544525ZC5
2037	3,930,000	5.000	1.420	133.264 ^C	544525ZD3
2040	29,750,000	5.000	1.580	131.520 ^C	544525ZE1
2041	62,360,000	5.000	1.620	131.088 ^C	544525ZF8

\$20,735,000 5.000% Term Bonds due July 1, 2047 – Yield 1.770%; Price 129.483^C; CUSIP[†] No. 544525ZG6

\$50,710,000 5.000% Term Bonds due July 1, 2050 – Yield 1.800%; Price 129.165^C; CUSIP[†] No. 544525ZH4

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^C Priced to the par call date of July 1, 2030.

DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES

111 North Hope Street
Los Angeles, California 90012

BOARD OF WATER AND POWER COMMISSIONERS

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CYNTHIA MCCLAIN-HILL, Vice President
JILL BANKS BARAD
NICOLE NEEMAN BRADY
SUSANA REYES

Susan A. Rodriguez, Secretary

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Richard F. Harasick, Senior Assistant General Manager – Water System
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Kathy M. Fong, Assistant Chief Financial Officer and Controller
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Disclosure Counsel
Kutak Rock LLP

Municipal Advisor
Public Resources Advisory Group

Fiscal Agent for Payment
Treasurer of the City of Los Angeles

Verification Agent
Samuel Klein and Company,
Certified Public Accountants

No dealer, broker, salesperson or other person has been authorized by the Department of Water and Power of the City of Los Angeles (the “Department”) or any Underwriter for the Series A Bonds to give any information or to make any representations, other than as contained in this Official Statement, and if given or made such other information or representations must not be relied upon as having been authorized by the Department or any such Underwriter.

The information set forth herein has been furnished by the Department and other sources that are believed to be reliable. The information and expressions of opinion contained herein are subject to change without notice and neither the delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Department or the Water System since the date hereof.

This Official Statement does not constitute an offer to sell Series A Bonds in any state to any person to whom it is unlawful to make such an offer in such state. This Official Statement is not a contract with the purchasers of Series A Bonds.

In connection with the offering of the Series A Bonds, the Underwriters may overallocate or effect transactions which stabilize or maintain the market price of the Series A Bonds at a level above that which might otherwise prevail in the open market. Such stabilizing, if commenced, may be discontinued at any time. The Underwriters may offer and sell Series A Bonds to certain dealers, institutional investors and others at prices lower than the public offering prices stated on the inside cover page hereof and such public offering prices may be changed from time to time by the Underwriters.

The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriters have reviewed the information in this Official Statement in accordance with, and as part of, their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

Certain statements included or incorporated by reference in this Official Statement constitute “forward-looking statements” within the meaning of federal securities laws. Such statements are based on currently available information, expectations, estimates, assumptions and projections and management’s judgment including those related to the water utility industry and general economic conditions. Such words as “expects,” “intends,” “plans,” “believes,” “estimates,” “anticipates” or variations of such words or similar expressions are intended to identify forward-looking statements. The forward-looking statements are not guarantees of future performance. Actual results may vary materially from what is contained in a forward-looking statement. Factors which may cause a result different than expected or anticipated include new legislation, unfavorable court decisions, increases in suppliers’ prices, particularly prices for purchased water and prices for power in connection with the operation of the Water System, changes in environmental compliance requirements, acquisitions, changes in customer water use patterns, natural disasters such as earthquakes, terrorist acts, the impact of weather on operating results and developments associated with the ongoing COVID-19 pandemic. The Department assumes no obligation to provide public updates of forward looking statements.

The Series A Bonds have not been registered under the Securities Act of 1933, as amended, in reliance upon an exemption contained in such act. The Series A Bonds have not been registered or qualified under the securities laws of any state.

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OFFICIAL STATEMENT

\$204,255,000
Department of Water and Power of the City of Los Angeles
Water System Revenue Bonds
2020 Series A

INTRODUCTION

The purpose of this Official Statement, which includes the cover page and the Appendices hereto, is to furnish information with respect to the Department of Water and Power of the City of Los Angeles (the "Department") and its Water System Revenue Bonds, 2020 Series A (the "Series A Bonds").

This Introduction is qualified in its entirety by reference to the more detailed information included and referred to elsewhere in this Official Statement. The offering of the Series A Bonds to potential investors is made only by means of the entire Official Statement. Capitalized terms used in this Official Statement have the respective meanings given such terms under the caption "CERTAIN DEFINITIONS" in Appendix D or in Appendix G.

The Department

The Department was created by and exists under The Charter of The City of Los Angeles, adopted in 1925 and replaced by a new charter which became effective July 1, 2000 (the "Charter"). The Department is designated a proprietary department of the City of Los Angeles (the "City"). The Department is the largest municipal utility in the United States and provides water service through its Water System (as defined herein) and electric service through its Power System in a service area consisting almost entirely of the City. The Department is governed by the Board of Water and Power Commissioners of the City of Los Angeles (the "Board"). See "THE DEPARTMENT."

Authority for Issuance

The Series A Bonds are being issued pursuant to Section 609 of the Charter, relevant ordinances of the City and Resolution No. 4591, adopted by the Board on February 6, 2001, as amended (the "Master Resolution"), as supplemented by Resolution No. 4972 adopted by the Board on April 21, 2020 (the "Twenty-Ninth Supplemental Resolution"). The Master Resolution and the Twenty-Ninth Supplemental Resolution are collectively referred to in this Official Statement as the "Bond Resolution." See "THE SERIES A BONDS" and Appendix D.

Purpose of Series A Bonds

The Department is issuing the Series A Bonds to provide funds to pay costs of Capital Improvements to the Water System, refund the Refunded Bonds (as defined herein), prepay the Prepaid State Loans (as defined herein), and pay certain costs of issuance of the Series A Bonds. See "PLAN OF FINANCE" and "APPLICATION OF PROCEEDS."

Source of Payment for the Series A Bonds

The Series A Bonds constitute and evidence special obligations of the Department payable as to principal and interest only from the Water Revenue Fund and not out of any other fund or moneys of the

Department or the City. The Series A Bonds do not constitute or evidence an indebtedness of the City, or a lien or charge on any property or the general revenues of the City. Neither the faith and credit nor the taxing power of the City is or will be pledged to the payment of the Series A Bonds. See “SOURCE OF PAYMENT.”

Water System

The “Water System” includes, whether situated inside or outside of the City or the State of California (the “State”), all of the water and water rights of the Los Angeles River, all other water or water rights of every nature and kind owned or controlled by the City, and all of the lands, rights-of-way, sites, facilities and property used for the capture, transportation, distribution and delivery of water for the benefit of the City, its inhabitants and its customers.

Rate Covenant

The Department has covenanted under the Master Resolution (as required by the Charter) that it will fix rates, subject to the approval of the Council of the City (the “City Council”), for service from the Water System, and collect charges for such service, such as to provide revenues, which together with the other available funds of the Department, will be at least sufficient to pay, as the same become due, the principal of, redemption premium, if any, and interest on the Outstanding Bonds (including the Series A Bonds) and all other outstanding bonds, notes, and other evidences of indebtedness payable out of the Water Revenue Fund, in addition to paying, as the same become due, the necessary expenses of operating and maintaining the Water System and all other obligations and indebtedness payable out of the Water Revenue Fund. During the time the Series A Bonds remain Outstanding, the City Council is required by the Charter to approve the rates so fixed by the Department for service from the Water System sufficient for such purposes. See “WATER RATES.”

Parity Debt Obligations

As of March 31, 2020, the Department had approximately \$5.89 billion in principal amount of debt outstanding payable from the Water Revenue Fund, comprised of approximately \$5.15 billion of revenue bonds (including the Refunded Bonds), \$736 million of loans (including the Prepaid State Loans) provided to the Department by the California State Water Resources Control Board (the “State Water Resources Control Board”), and a \$1 million loan from the Department of Water Resources of the State of California (the “Department of Water Resources”) through the Proposition 1 Water Quality, Supply and Infrastructure Improvement Act of 2014, CalConserve Water Efficiency Revolving Fund Loan Program (“Proposition 1”). Such outstanding Department debt is payable from the Water Revenue Fund on a parity basis with the Series A Bonds. The Department has a significant infrastructure program and intends to issue Additional Parity Obligations (consisting of additional Water System Revenue Bonds and additional loans from the State Water Resources Control Board) in the future, subject to the provisions of the Master Resolution. See “THE MASTER RESOLUTION” and “SOURCE OF PAYMENT—Additional Parity Obligations” and “WATER SYSTEM INFRASTRUCTURE PROGRAM—Projected Capital Improvements.”

Continuing Disclosure

In connection with the issuance of the Series A Bonds, the Department will agree to provide, or to cause to be provided, to the Municipal Securities Rulemaking Board (the “MSRB”) through its Electronic Municipal Market Access system (“EMMA”), certain annual financial information and operating data relating to the Department and the Water System, and, in a timely manner, notice of certain enumerated events. These covenants are made in order to assist the Underwriters in complying with Rule 15c2-12(b)(5)

("Rule 15c2-12") adopted by the U.S. Securities and Exchange Commission ("SEC") under the Securities Exchange Act of 1934, as amended. See "CONTINUING DISCLOSURE" and Appendix F.

Other Matters

The summaries of and references to all documents, statutes, Charter provisions, resolutions, reports and other instruments referred to herein do not purport to be complete, comprehensive or definitive and each such summary and reference is qualified in its entirety by reference to each document, statute, Charter provision, resolution, report or instrument.

Department Website

The Department maintains a website at www.ladwp.com. Information on such website is not part of this Official Statement and such information has not been incorporated by reference herein and should not be relied upon in deciding whether to invest in the Series A Bonds.

THE MASTER RESOLUTION

The Master Resolution provides for the issuance of Bonds, including the Series A Bonds, payable from the Water Revenue Fund and provides certain terms and conditions which will apply to all such Bonds, including the Series A Bonds. The Series A Bonds are to be issued pursuant to the Master Resolution as supplemented by the Twenty-Ninth Supplemental Resolution. The Master Resolution provides, among other things, the conditions that must be satisfied for the issuance of Bonds and other Parity Obligations payable from the Water Revenue Fund on a parity with the Bonds, the covenants of the Department with respect to the Bonds, a Bond Service Fund and Redemption Fund for the Bonds, an Expense Stabilization Fund and the terms under which the Master Resolution may be amended. The Master Resolution permits the issuance of Parity Obligations under Issuing Instruments other than the Master Resolution and Supplemental Resolutions. For a summary of certain provisions of the Master Resolution and the Twenty-Ninth Supplemental Resolution, see Appendix D.

PLAN OF FINANCE

Capital Improvement Projects

A portion of the proceeds of the Series A Bonds will be used to pay the costs of Capital Improvements to the Water System. See "WATER SYSTEM INFRASTRUCTURE PROGRAM—Projected Capital Improvements."

Refunding of Refunded Bonds

A portion of the proceeds of the Series A Bonds will be used to refund all of the Department's outstanding Water System Revenue Bonds, 2010 Series A maturing on July 1, 2041, which are currently outstanding in the aggregate principal amount of \$100,000,000 (the "Refunded Bonds"). The Refunded Bonds are described in more detail in the following table.

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REFUNDED BONDS
(Water System Revenue Bonds, 2010 Series A)

Maturity Date (July 1)	Principal Amount	Interest Rate	Redemption Date	CUSIP Number ¹
2041	\$100,000,000	7.003%	July 1, 2020	544495WB6

¹ CUSIP numbers are provided only for the convenience of the reader. Neither the Department nor the Underwriters undertake any responsibility for the accuracy of such CUSIP numbers or for any changes or errors in the list of CUSIP numbers.

A portion of the proceeds of the Series A Bonds will be deposited with the Paying Agent for the Refunded Bonds and will be used on July 1, 2020 to pay the redemption price of the Refunded Bonds. Upon delivery of the Series A Bonds, Samuel Klein and Company, Certified Public Accountants, independent certified public accountants (the "Verification Agent"), will deliver a report stating that the firm has verified the mathematical accuracy of certain computations relating to the adequacy of the amounts to be deposited with the Paying Agent for the Refunded Bonds to pay the redemption price of the Refunded Bonds due on July 1, 2020. See "VERIFICATION OF MATHEMATICAL COMPUTATIONS."

Prepayment of Prepaid State Loans

A portion of the proceeds of the Series A Bonds, together with certain moneys to be contributed by the Department, will be used to prepay \$59,867,408.78 principal amount of the outstanding loans from the State Water Resources Control Board (the "Prepaid State Loans"). The Prepaid State Loans will be prepaid on or about the date of delivery of the Series A Bonds.

APPLICATION OF PROCEEDS

The following table sets forth the sources and uses of funds in connection with the issuance of the Series A Bonds.

Sources of Funds

Principal Amount	\$204,255,000.00
Original Issue Premium	59,676,006.80
Debt Service Fund Release	341,940.11
Total Sources	<u>\$264,272,946.91</u>

Uses of Funds

Capital Improvements	\$103,585,477.94
Refunding of Refunded Bonds	100,000,000.00
Prepayment of Prepaid State Loans	60,209,348.89
Costs of Issuance, including Underwriters' Discount	478,120.08
Total Uses	<u>\$264,272,946.91</u>

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THE SERIES A BONDS

General

The Series A Bonds will be dated their date of delivery and will mature in the respective principal amounts on the dates and bear interest at the respective rates of interest per annum, all as set forth on the inside cover hereof. Interest will be determined on the basis of a 360-day year of twelve 30-day months, payable on January 1 and July 1 of each year, commencing on January 1, 2021.

DTC Book-Entry System

The Series A Bonds will be issued as book-entry bonds, in fully registered form. The Series A Bonds will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the Series A Bonds. Individual purchases of interests in Series A Bonds will be made in the principal amount of \$5,000 or any integral multiple thereof. Principal of and interest on the Series A Bonds, are payable directly to DTC by the Treasurer of the City of Los Angeles, as Fiscal Agent for payment. Upon receipt of such payments, DTC is obligated in turn to remit such payments to the DTC Participants for subsequent disbursement to the Beneficial Owners of the Series A Bonds, as described in Appendix C. NEITHER THE DEPARTMENT NOR THE FISCAL AGENT WILL BE RESPONSIBLE OR LIABLE FOR SUCH TRANSFERS OF PAYMENTS, FOR THE PROVIDING OF NOTICES BY DTC, INCLUDING NOTICES OF REDEMPTION, OR FOR MAINTAINING, SUPERVISING OR REVIEWING THE RECORDS MAINTAINED BY DTC, THE DTC PARTICIPANTS OR PERSONS ACTING THROUGH SUCH PARTICIPANTS. For information concerning the DTC book-entry system, see Appendix C.

DTC may discontinue providing its services with respect to the Series A Bonds at any time by giving notice to the Fiscal Agent and the Department as provided in the Master Resolution and discharging its responsibilities with respect thereto under applicable law. The Department may terminate its participation in the book-entry system of DTC or any other Securities Depository with respect to the Series A Bonds. In the event that a book-entry system with respect to the Series A Bonds is discontinued, the Department will execute and deliver replacement Series A Bonds in the form of registered certificates. In addition, the following provisions would apply: the principal of the Series A Bonds will be payable upon surrender thereof at the principal office of the Fiscal Agent for payment in Los Angeles, California and interest on the Series A Bonds will be payable by check mailed on each interest payment date to the registered Owners thereof as shown on the registration books for the Series A Bonds as of the applicable Record Date. The Series A Bonds will then be transferable and exchangeable on the terms and conditions provided in the Master Resolution.

Redemption of Series A Bonds

Optional Redemption. The Series A Bonds maturing on and after July 1, 2035, will be subject to redemption prior to maturity, at the option of the Department, from any source of available funds, as a whole or in part, on any date on or after July 1, 2030, at a redemption price equal to the principal amount to be redeemed, plus accrued but unpaid interest to the redemption date, without premium.

Mandatory Sinking Fund Redemption. The Series A Bonds maturing on July 1, 2047 (the "Series A Term Bonds (2047)"), will be subject to mandatory redemption prior to maturity on July 1, 2044, and on each July 1 thereafter, from sinking fund installments for such Series A Term Bonds (2047), at a redemption price equal to the principal amount thereof, without premium, which sinking fund installments are to be made at the times and in the amounts sufficient to provide for the redemption of such Series A Term Bonds (2047) in the years and amounts set forth below:

Mandatory Redemption Date (J uly 1)	Amount
2044	\$4,840,000
2045	5,030,000
2046	5,225,000
2047*	5,640,000

* Final Maturity.

The Series A Bonds maturing on July 1, 2050 (the "Series A Term Bonds (2050)," and together with the Series A Term Bonds (2047), the "Series A Term Bonds"), will be subject to mandatory redemption prior to maturity on July 1, 2048, and on each July 1 thereafter, from sinking fund installments for such Series A Term Bonds (2050), at a redemption price equal to the principal amount thereof, without premium, which sinking fund installments are to be made at the times and in the amounts sufficient to provide for the redemption of such Series A Term Bonds (2050) in the years and amounts set forth below:

Mandatory Redemption Date (J uly 1)	Amount
2048	\$11,855,000
2049	16,005,000
2050*	22,850,000

* Final Maturity.

The amount of the Series A Term Bonds to be redeemed from Sinking Fund Installments on any date will be reduced as directed by the Department by the principal amount of the Series A Term Bonds that have been previously optionally redeemed or purchased by the Department and surrendered to the Fiscal Agent for cancellation in accordance with the Master Resolution and the Twenty-Ninth Supplemental Resolution.

Notice of Redemption. Notice of the redemption of Series A Bonds is to be given to the Owners of the Series A Bonds to be redeemed, not less than 30 days nor more than 60 days before the redemption date, as provided in the Master Resolution. While Cede & Co. is the registered Owner of the Series A Bonds, notice of redemption will be given to DTC or its nominee. The Department will not be responsible for providing notices of redemption to DTC Participants or the Beneficial Owners. Pursuant to the terms of the Master Resolution, the Department is also to provide notice of the redemption of Series A Bonds to the specified securities depositories and to an information service. Neither the failure of DTC or a Beneficial Owner of a Series A Bond to receive notice, nor the failure to send a notice of redemption to the securities depositories or an information service, will affect the validity of the proceedings for the redemption of Series A Bonds.

The notice of redemption will specify the maturities of Series A Bonds to be redeemed, the redemption date and the place or places where amounts due upon such redemption will be payable and, if less than all of the Series A Bonds of any maturity are to be redeemed, the letters and numbers or other distinguishing marks of such Series A Bonds to be redeemed, and, in the case of a Series A Bond to be redeemed in part only, such notice will also specify the portion of the principal amount thereof to be redeemed. Such notice will further state that on the specified redemption date there will become due and payable upon each Series A Bond to be redeemed the redemption price thereof, or the redemption price of

the specified portion of the principal amount thereof to be redeemed in the case of a Series A Bond to be redeemed in part only, together with accrued, unpaid interest on the principal amount to be redeemed to the redemption date, and that from and after such date interest on such Series A Bond, or the portion of such Series A Bond to be redeemed, will cease to accrue and be payable.

Conditional Notice. Under the Master Resolution, a notice of redemption of Series A Bonds, at the option of the Department, may be given on a conditional basis. In the event such conditional notice of redemption is given, if on the date established for such redemption of Series A Bonds there are not sufficient funds to effect such redemption, the applicable Series A Bonds will not be redeemed as described in such notice and the Series A Bonds so called for redemption will continue to be Outstanding on the terms and conditions contained in such Series A Bonds, the Master Resolution and the Twenty-Ninth Supplemental Resolution and will bear interest and to be subject to further calls for redemption as provided in the Master Resolution and the Twenty-Ninth Supplemental Resolution as if such notice of redemption had not been given.

Selection of Series A Bonds for Redemption. Except as otherwise provided with respect to Series A Bonds held in book-entry form, if less than all of the Outstanding Series A Bonds of a maturity are to be redeemed, the Fiscal Agent will select the Series A Bonds of such maturity to be redeemed at random in such manner as the Fiscal Agent in its discretion may deem fair and appropriate; provided, however, that the portion of any Series A Bond of a denomination greater than \$5,000 will be treated as that number of Series A Bonds obtained by dividing the principal amount of such Series A Bonds by \$5,000. If less than all of the Series A Bonds of a maturity held in the DTC book-entry system are to be redeemed, the Series A Bonds of such maturity to be redeemed will be selected as provided in the DTC procedures. See Appendix C.

SOURCE OF PAYMENT

Special Obligations of Department

The Series A Bonds will be special obligations of the Department payable only from the Water Revenue Fund, and not out of any other fund or moneys of the Department or the City. The Series A Bonds will not constitute or evidence an indebtedness of the City or a lien or charge on any property nor on the general revenues of the City. Neither the faith and credit nor the taxing power of the City is pledged to the payment of the Series A Bonds.

Water Revenue Fund

The principal of and interest on the Bonds, including the Series A Bonds, is payable from the Water Revenue Fund. The Water Revenue Fund is a separate fund established by the Charter in the City Treasury. All revenues from every source collected by the Department in connection with the possession, management and control of the Water System are required to be deposited in the Water Revenue Fund. All moneys in the Water Revenue Fund are under the control and management of the Board and are kept separate from revenues and moneys of the Power System of the Department. Pursuant to the Master Resolution, the Department has covenanted to pay out of the Water Revenue Fund, without priority, (a) the costs and expenses of operating and maintaining the Water System; (b) the principal of, redemption premium, if any, and interest on the Outstanding Bonds (including the Series A Bonds) and other Parity Obligations; and (c) all other obligations payable from the Water Revenue Fund that are not, by their terms, Subordinated Obligations. See "APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION."

Rate Covenant

The Department has covenanted under the Master Resolution, as required by the Charter, that the Board will fix rates, subject to the approval of the City Council, for service from the Water System, and collect charges for such service, so as to provide revenues, which together with the other available funds of the Department, will be at least sufficient to pay, as the same become due, the principal of, redemption premium, if any, and interest on the Outstanding Bonds (including the Series A Bonds) and all other outstanding bonds, notes, and other evidences of indebtedness payable out of the Water Revenue Fund, in addition to paying, as the same become due, the necessary expenses of operating and maintaining the Water System, and all other obligations and indebtedness payable out of the Water Revenue Fund. The Charter provides that the City Council will approve rates so fixed by the Department in an amount sufficient to meet all such revenue requirements. See "WATER RATES."

Additional Parity Obligations

No Priority. The Master Resolution provides that the Department may not issue any Obligations that are senior or prior in right to payment from the Water Revenue Fund to the Bonds, including the Series A Bonds.

Limitations on Parity Obligations. The Master Resolution provides that the Department may, at any time, issue Additional Parity Obligations; provided that the Department obtains or provides a certificate or certificates, prepared by the Department or at the Department's option by a Consultant, showing that the Adjusted Net Income as shown by the books of the Department for any 12 consecutive month period (selected by the Department in its sole discretion) within the 18 consecutive months ending immediately prior to the issuance of such Additional Parity Obligations will have amounted to at least 1.25 times the Maximum Annual Adjusted Debt Service on all Parity Obligations to be Outstanding immediately after the issuance of the proposed Additional Parity Obligations. For purposes of preparing the certificate or certificates described above, the Department and any Consultant may rely upon financial statements prepared by the Department that have not been subject to audit by an independent Certified Public Accountant if audited financial statements for the particular 12-month period selected by the Department are not available.

The Master Resolution provides that the Department may enter into certain Qualified Swap Agreements and Credit Support Instruments in connection with Parity Obligations, and issue certain Refunding Parity Obligations, without satisfying such Adjusted Net Income Test. See "APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION—CERTAIN DEFINITIONS" and "APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION—MASTER RESOLUTION—Conditions to Issuance of Parity Obligations."

The Master Resolution generally defines Adjusted Net Income as the Net Income for such Calculation Period plus an amount equal to depreciation, amortization, interest on debt and Unrealized Items for such Calculation Period, in each case determined in accordance with Generally Accepted Accounting Principles, less any portion of such Net Income which has been deposited in the Expense Stabilization Fund, plus at the option of the Department, certain allowances and adjustments as described in the Master Resolution. The Master Resolution defines Maximum Annual Adjusted Debt Service as the maximum amount of Debt Service becoming due on the Applicable Parity Obligations in the then current or any future Fiscal Year, as adjusted as provided in the Master Resolution and calculated by the Department or by a Consultant.

Subordinated Obligations

The Master Resolution provides that, without satisfying the test for the issuance of Additional Parity Obligations, the Department may issue Obligations that are junior and subordinate as to payment from the Water Revenue Fund to the Parity Obligations. See “APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION—MASTER RESOLUTION—Conditions of Issuance of Subordinated Obligations.” The Department does not currently have any outstanding Subordinated Obligations.

Expense Stabilization Fund

Pursuant to the Master Resolution, the Expense Stabilization Fund was established and is maintained by the Department. Moneys are deposited to the Expense Stabilization Fund in such amounts, at such times and from such sources as are determined by the Department in its sole discretion. Amounts on deposit in the Expense Stabilization Fund may be withdrawn at any time and applied to any lawful purpose in connection with the Water System, including, without limitation, payment of the costs and expenses of operating and maintaining the Water System, payment of Debt Service on the Parity Obligations (including the Series A Bonds), payment of principal, redemption premium or interest on Subordinated Obligations, payment of costs of Capital Improvements, payment of costs of issuance of Parity Obligations or payments of the costs of issuance of Subordinated Obligations. As of March 31, 2020, there was approximately \$53.0 million on deposit in the Expense Stabilization Fund. See “THE DEPARTMENT—Investment Policy and Controls.”

Other Covenants

In addition to the covenant with respect to rates described above, the Master Resolution includes covenants by the Department with respect to the sale of the Water System, the operation and maintenance of the Water System, and other matters. See “APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION—MASTER RESOLUTION—Covenants.”

THE DEPARTMENT

General

The Department is the largest municipal utility in the United States and is a proprietary department of the City. Control of Water System assets and funds is vested with the Board, whose actions are subject to review by the City Council. The Department is responsible for providing the electric and water requirements of its service area. The Department provides electric and water service almost entirely within the boundaries of the City. The City encompasses approximately 473 square miles and is populated by approximately 4.0 million residents. For more information about the City, see “APPENDIX B—DEMOGRAPHIC AND ECONOMIC INFORMATION FOR THE CITY OF LOS ANGELES.”

Department operations began in the early years of the twentieth century. The first Board of Power Commissioners was established in 1902. Nine years later, the responsibilities for the provision of electricity and water within the City were given to the Los Angeles Department of Public Service (the “Department of Public Service”). The Department of Public Service was superseded in 1925 with passage of the 1925 Charter and the creation of the Department. The Department now operates under the Charter adopted in 2000. The operations and finances of the Water System are separate from those of the Power System.

Charter Provisions

Pursuant to the Charter, the Board is the governing body of the Department and the General Manager of the Department (the “General Manager”) administers the affairs of the Department.

The Charter provides that all revenue from every source collected by the Department in connection with its possession, management and control of the Water System is to be deposited in the Water Revenue Fund. The Charter further provides that the Board controls the money in the Water Revenue Fund and makes provision for the issuance of Department bonds, notes and other evidences of indebtedness payable out of the Water Revenue Fund. The procedure relating to the authorization of the issuance of bonds is governed by Section 609 of the Charter.

Section 245 of the Charter provides that, with certain exceptions, actions of City commissions and boards (“Board Action”), including the Board, do not become final until five consecutive City Council meetings convened in regular session have passed or a waiver of such period is granted by City Council. During those five City Council meetings (unless the waiver of such period has been granted), the City Council may, on a two-thirds vote, take up the Board Action. If the Board Action is taken up, the City Council may approve or veto the Board Action within 21 calendar days of taking up the Board Action. If the City Council takes no action to assert jurisdiction over the Board Action during those five meetings, the Board Action becomes final at the end of such period. The Twenty-Ninth Supplemental Resolution has become final.

Board of Water and Power Commissioners

Under the Charter, the Board is granted the possession, management and control of the Water System. Pursuant to the Charter, the Board also has the power and duty to make and enforce all necessary rules and regulations governing the construction, maintenance, operation, connection to and use of the Water System and to acquire, construct, extend, maintain and operate all improvements, utilities, structures and facilities the Board deems necessary or convenient for purposes of the Department. The Mayor of the City appoints, and the City Council confirms the appointment of, members of the Board. The Board is traditionally selected from among prominent business, professional and civic leaders in the City. The members of the Board serve with only nominal compensation. Certain matters regarding the administration of the Department also require the approval of the City Council.

The Board is composed of five members. The current members of the Board are:

MEL LEVINE, President. Mr. Levine was appointed to the Board by Mayor Eric Garcetti and confirmed by the City Council on September 11, 2013. He was re-confirmed to the Board on August 19, 2014 and on June 25, 2019. Mr. Levine was first elected President of the Board on October 1, 2013 and was most recently re-elected President of the Board on July 23, 2019. Mr. Levine served as a member of the United States Congress from 1983-1993 and as a member of the California Assembly from 1977 to 1982. He was a partner at the law firm of Gibson, Dunn & Crutcher from 1993 to 2012 and continues as an Of Counsel to the firm. Mr. Levine chairs the Advisory Board of the Center on Public Diplomacy at the University of Southern California’s Annenberg School, is a member of the Advisory Board of the Goldman School of Public Policy at the University of California at Berkeley and is a director of the Pacific Council on International Policy. He has served as U.S. Chair of the U.S.-Israel-Palestinian “Anti-Incitement” committee established by the Wye Plantation peace agreement, as a Presidential appointee to the United States Holocaust Memorial Council, as a U.S. government appointee to the U.S.-Israel Science and Technology Advisory Commission, as President of the American Friends of the (Yitzhak) Rabin Center in Israel, and as Board Chair of the Los Angeles Police Foundation. Mr. Levine holds a law degree from

Harvard University, a master's degree in public affairs from Princeton University and a bachelor's degree from the University of California at Berkeley.

CYNTHIA MCCLAIN-HILL, Vice President. Ms. McClain-Hill was appointed to the Board by Mayor Eric Garcetti and confirmed by the City Council on August 15, 2018. She was elected Vice President of the Board on September 5, 2018 and re-elected Vice President of the Board on July 23, 2019. Ms. McClain-Hill is an attorney, co-founder, and managing director of the Los Angeles-based Strategic Counsel PLC, specializing in managing complex legal matters, strategizing public policy, advocacy, and communications. She previously served on the Los Angeles Board of Police Commissioners, the California Coastal Commission, the California Fair Political Practices Commission, the CalEPA Environmental Justice Advisory Working Group, the Community Redevelopment Agency for the City of Los Angeles, the Los Angeles Small and Local Business Advisory Commission and as president of the Los Angeles Chapter of the National Association of Women Business Owners. Ms. McClain-Hill holds a law degree and a bachelor's degree from the University of California at Los Angeles.

JILL BANKS BARAD, Commissioner. Ms. Barad was appointed to the Board by Mayor Eric Garcetti and confirmed by the City Council on September 11, 2013. Ms. Barad was re-confirmed to the Board on June 29, 2018. She owns Jill Barad & Associates, a political consulting, public relations and government affairs firm. Ms. Barad serves on the Sherman Oaks Neighborhood Council, the Valley Alliance of Neighborhood Councils, and the Valley Industry and Commerce Association. Previously, she chaired Mayor Tom Bradley's Advisory Committee on Education and served on the Citizens Advisory Committee on Student Integration and has taught political public relations, media and fundraising at the University of California at Los Angeles. Ms. Barad founded The Open School to create the first community-initiated magnet school in the Los Angeles Unified School District, which went on to become the first charter school in California. She holds a bachelor's degree from Temple University.

NICOLE NEEMAN BRADY, Commissioner. Ms. Neeman Brady was appointed to the Board by Mayor Eric Garcetti and confirmed by the City Council on November 8, 2019. Ms. Neeman Brady has over eleven years of experience in energy, water, and agriculture management, and she currently serves as the Chief Operating Officer and Principal of the Renewable Resources Group, where she directs investments and develops opportunities. She also sits on the board of directors for the Library Foundation of Los Angeles. Prior to joining the Renewable Resources Group, Ms. Neeman Brady was President and Founder of Edison Water Resources, a subsidiary of Edison International, where she developed water treatment and recycling strategies. Ms. Neeman Brady also served in several leadership roles at the Southern California Edison Company, including the role of Director of Energy Procurement. Ms. Neeman Brady holds dual Bachelor of Arts degrees, with honors, in architecture and economics from Brown University and a Master of Business Administration degree, with distinction, from Harvard Business School.

SUSANA REYES, Commissioner. Ms. Reyes was appointed to the Board by Mayor Eric Garcetti and confirmed by the City Council on June 5, 2019. She is the founder and CEO of AgilEngines LLC, an advocacy and consulting firm focusing on community outreach and civic engagement strategies. Ms. Reyes was the first Director of Low-Income Customer Access at the Department. Previously, she also served as a Senior Sustainability Analyst in the Office of L.A. Mayor Eric Garcetti and helped oversee the implementation of the first Sustainable City Plan. Ms. Reyes also served as Manager of the City's Facilities Recycling Program and as a Human Resources Director at the Department where she oversaw health and wellness programs, training and leadership development, and the Workers Compensation Program. She graduated magna cum laude from Saint Paul College with a Communications degree and pursued a Civic Engagement Leadership and Management certification from the UCLA Anderson School of Management, a Government Purchasing and Contract Administration credential from the George Washington University, and was a Certified Professional in Learning and Performance.

Management of the Department

The management and operation of the Department are administered under the direction of the General Manager. The management structure of the Department consists of three functional senior executive positions: Chief Administrative Officer, Chief Sustainability Officer and Senior Assistant General Manager of External and Regulatory Affairs, and Chief Financial Officer. The Department's financial affairs are supervised by the Department's Chief Financial Officer. The Water System is directed by the Senior Assistant General Manager of the Water System. Legal counsel is provided to the Department by the Office of the City Attorney of the City of Los Angeles.

Below are brief biographies of the Department's General Manager, Mr. David H. Wright and other members of the senior management team for the Water System:

MARTIN L. ADAMS, General Manager and Chief Engineer. Mr. Adams was named Interim General Manager of the Department in July 2019 and confirmed as the General Manager and Chief Engineer by the City Council in September 2019. Prior to his appointment as General Manager, Mr. Adams served as the Chief Operating Officer of the Department since September 2016. In that capacity, he oversaw the Water System and Power System, along with other support organizations within the Department. Mr. Adams has more than 35 years of experience at the Department, where he started as an entry level engineer in the Water System, eventually leading the Water System as its Senior Assistant General Manager. During the course of his career, Mr. Adams worked throughout the Water System and was directly involved with the planning and implementation of major changes to water storage, conveyance, and treatment facilities to meet new water quality regulations. He has spent almost half of his career in system operations, including ten years as the Director of Water Operations in charge of the day-to-day operation and maintenance of the Los Angeles water delivery system, including the Los Angeles Aqueduct and other supply sources, pump stations, reservoirs, water treatment, and management of Water System properties. Mr. Adams received his Bachelor of Science degree in civil engineering from Loyola Marymount University in Los Angeles.

LINDA P. LE, Chief Administrative Officer. Ms. Le was named Chief Administrative Officer in October 2019. Prior to her appointment as Chief Administrative Officer, Ms. Le served as the Retirement Plan Manager of the Department since January 2015. Ms. Le has more than 18 years of experience at the Department, including serving as the Water System Administrative Services Manager, overseeing personnel, budgetary and administrative functions, policies and procedures, and as a director on the Management Employees Association Board. Ms. Le holds a bachelor's degree from the University of California, Irvine.

NANCY H. SUTLEY, Chief Sustainability Officer and Senior Assistant General Manager of External and Regulatory Affairs. Ms. Sutley was named Chief Sustainability Officer in 2014 and assumed the role of Senior Assistant General Manager of External and Regulatory Affairs in October 2019. Prior to joining the Department, Ms. Sutley served as Chair of the White House Council on Environmental Quality. Under her leadership, the Council played a central role in shepherding the Obama Administration's signature environmental projects and was one of the chief architects of President Obama's 2013 Climate Action Plan. Ms. Sutley has an extensive background in public service that includes posts as Deputy Mayor for Energy and Environment for the City of Los Angeles, Board Member of the Metropolitan Water District, Member of the California State Water Resources Control Board, Energy Advisor for California Governor Gray Davis, Deputy Secretary for Policy and Intergovernmental Relations at the California Environmental Protection Agency, and Senior Policy Advisor for the United States Environmental Protection Agency during the Clinton Administration. Ms. Sutley holds a bachelor's degree from Cornell University and a Master of Public Policy degree from Harvard University.

RICHARD F. HARASICK, Senior Assistant General Manager – Water System. Mr. Harasick was named Senior Assistant General Manager of the Water System in November 2016. He has nearly 35 years of experience in water utility planning, design, construction, project and program management, and operations. Prior to his current appointment, Mr. Harasick served as the Director of Water Operations for the Department, where he was responsible for the delivery and treatment of water that is served to the City of Los Angeles, including operation of the Los Angeles Basin “Metro” and the Los Angeles Aqueduct systems, which includes the operation and maintenance of pumping and treatment plants, tanks and reservoirs, aqueduct facilities, and control systems. Prior to his service as Director of Water Operations, Mr. Harasick was Assistant Director of Water Resources where he directed the development of the Owens Lake Dust Mitigation Program. He has also served in progressively responsible positions at the Department including Water Conservation Group Leader, Program Director for the Hollywood Water Quality Improvement Project and Water Engineering & Technical Services Division Planning Manager.

ANN M. SANTILLI, Chief Financial Officer. Ms. Santilli was named Chief Financial Officer of the Department in May 2019. She had served as Interim Chief Financial Officer of the Department since March 2018. Prior to her appointment as Interim Chief Financial Officer, Ms. Santilli served as Assistant Chief Financial Officer and Controller of the Department from 2012 through February 2018 and previously held the role of Interim Chief Financial Officer of the Department from October 2010 through January 2012. Prior to her first service as Interim Chief Financial Officer, Ms. Santilli served as Chief Accounting Employee and Assistant Chief Financial Officer and Controller of the Department. She assumed the post as Controller in March 2008, as Assistant Chief Financial Officer in April 2008 and as Chief Accounting Employee in July 2010. Prior to being appointed as the Controller, Ms. Santilli was the Manager of Financial Reporting since 2003. Ms. Santilli has over 32 years of accounting and auditing experience. Ms. Santilli holds a bachelor’s degree in business administration from California State University at Northridge and is a certified public accountant in the State and a certified internal auditor.

KATHY M. FONG, Assistant Chief Financial Officer and Controller. Ms. Fong was named Assistant Chief Financial Officer and Controller of the Department in March 2020 after serving as the Acting Assistant Chief Financial Officer and Controller of the Department since March 2018. Ms. Fong previously served as Assistant Controller – Financial Reporting of the Department from August 2014 through February 2018 and held the role of Manager of Financial Reporting of the Department from June 2008 through July 2014. Prior to being appointed as the Manager of Financial Reporting in 2008, Ms. Fong served as the Assistant to the Manager of the Budget Office since 2002. Ms. Fong has over 30 years of accounting and budgeting experience. Ms. Fong holds a bachelor’s degree in business administration with an option in accounting from California State University at Los Angeles and is a certified public accountant in the State and a certified management accountant.

MARIO C. IGNACIO, CFA, Chief Accounting Employee and Assistant Auditor. Mr. Ignacio serves as the Chief Accounting Employee and Assistant Auditor, as well as the Assistant Chief Financial Officer and Treasurer for the Department. Prior to his appointment as Chief Accounting Employee in October 2010, Mr. Ignacio served as the Interim Chief Financial Officer of the Department. Mr. Ignacio has over 29 years of financial management experience emphasizing taxable fixed income investment and debt administration. His responsibilities include directing and managing trust fund portfolios with assets over \$1 billion, administering and implementing debt-restructuring activities for the Department and certain SCPPA projects, overseeing risk management and control, and monitoring credit for the utility’s wholesale marketing activities and natural gas hedging program. Mr. Ignacio holds a bachelor’s degree in business administration and accountancy (cum laude) from the University of the Philippines. He holds a master’s degree in business administration from the University of Southern California, where he was elected to the Beta Gamma Sigma Honor Society. He has earned the right to use the Chartered Financial Analyst (CFA) designation, is a member of the Los Angeles Society of Financial Analysts and the CFA Institute, and was the past president of the Los Angeles Civic Center Chapter of the Association of Government Accountants.

Employees

As of March 31, 2020, the Department assigned approximately 2,093 Department employees to the Water System on a full time basis. Approximately 4,222 additional Department employees support both the Water System and the Power System on a shared basis.

The Department conducts personnel functions in accordance with the Charter-established civil service system (the “Civil Service System”) applicable to most Department employees. In accordance with the Civil Service System, the Department makes appointments on the basis of merit through competitive examinations and civil service procedures. The position of General Manager and 14 other management positions are specifically exempted from the Civil Service System.

The City Council approves the wages and salaries paid to all Department employees. In accordance with State law (the Meyers-Milias-Brown Act) and a conforming City ordinance (the Employee Relations Ordinance), the Department recognizes fourteen bargaining units of Department employees. Five labor or professional organizations represent these employees’ bargaining units. In the bargaining process the Department and the labor or professional organizations develop memoranda of understanding which set forth wages, hours, overtime and other terms and conditions of employment.

The Department entered into ten memoranda of understanding with the International Brotherhood of Electrical Workers (“IBEW”) for a period extending through September 30, 2022. IBEW represents more than 90% of the Department’s employees through ten bargaining units. The current memoranda of understanding were approved by the City Council on June 28, 2017. In 2014, through prior negotiations, the Department made changes to the pension program that included the establishment of a second pension tier for new employees (see “Retirement and Other Benefits” below), as well as ending pension system reciprocity with the Los Angeles City Employees Retirement System for employees who transfer between the systems. The Coalition of L.A. City Unions, whose members are not employed at the Department, has challenged the ending of the reciprocity agreement. The Department and City are defending the challenge against the decision to end the reciprocity agreement.

The Department’s memorandum of understanding with the Load Dispatchers Association expires on December 31, 2020. The Department’s memoranda of understanding with the Management Employees Association and the Association of Confidential Employees expire on December 31, 2021. The Department’s memorandum of understanding with the Service Employees International Union, Security Unit (“SEIU”), expires on September 30, 2022. Since the advent of collective bargaining in 1974, work stoppages have been rare, occurring in 1974, 1981 and 1993.

Retirement and Other Benefits

Retirement, Retiree Medical, Disability and Death Benefit Insurance Plan. The Department has a funded contributory retirement, disability, and death benefit insurance plan covering substantially all of its employees. The Water and Power Employees’ Retirement, Disability, and Death Benefit Insurance Plan is a retirement system of employee benefits and includes the Water and Power Employees’ Retirement Fund (the “Retirement Plan”), which is more fully described in “Note (7) Retirement Plan” (“Note 7”) and the “Required Supplementary Information” of the Department’s Water System Financial Statements, attached hereto as “APPENDIX A—FINANCIAL STATEMENTS.”

The costs of the Retirement Plan are shared by the Water System and the Power System, with the Water System being responsible for approximately 33% of Retirement Plan costs. Since Fiscal Year 2014-15, the assumed rate of investment return on the Retirement Plan’s assets has been decreased from 7.75% to 7.00%. This decrease contributed to an increase of the Department’s required contributions to

the Retirement Plan, including the Water System's share. Most recently, effective July 1, 2019, the Retirement Board lowered the assumed rate of return from 7.25% to 7.00%. The budgeted contributions described below for the Fiscal Years ending June 30, 2020 and June 30, 2021 take into account this change in the discount rate.

As more fully described in Note 7(d), the Water System made contributions to the Retirement Plan of approximately \$134.2 million in Fiscal Year 2018-19 (as part of a total Department contribution of approximately \$416.6 million), and the Water System made contributions to the Retirement Plan of approximately \$141.0 million in Fiscal Year 2017-18 (as part of a total Department contribution of approximately \$437.3 million). For the Fiscal Year ending June 30, 2020, the Department has budgeted a contribution of approximately \$188.7 million from the Water Revenue Fund to the Retirement Plan (as part of a total Department contribution of approximately \$589.8 million). For the Fiscal Year ending June 30, 2021, the Department has budgeted a contribution of approximately \$188.7 million from the Water Revenue Fund to the Retirement Plan (as part of a total Department contribution of approximately \$589.7 million). The Power System also has made, and will continue to make in the future, contributions to the Plan from the Power Revenue Fund.

The Department follows the provisions of Governmental Accounting Standards Board ("GASB") Statement No. 68, Accounting and Financial Reporting for Pension – an amendment of GASB Statement No. 27 ("GASB No. 68"). GASB No. 68 requires employers with pension liabilities to disclose the net pension liability along with deferred inflows and outflows of resources related to the pension liability. As approved by the Board, a regulatory asset has also been recorded, because this liability is expected to be funded by future revenues of the Water System. For more information about how GASB No. 68 affected the financial statements of the Water System, see "Note (4) Regulatory Assets" and "Required Supplementary Information" of the Department's Water System Financial Statements, attached hereto as "APPENDIX A—FINANCIAL STATEMENTS." Specifically, see Note 4(d) for a discussion of the Water System's establishment of the regulatory asset discussed above.

According to the latest actuarial valuation and review of the Retirement Plan, which was completed by The Segal Company on September 17, 2019, as of July 1, 2019, the market value of the assets in the Retirement Plan was approximately \$13 billion, which results in an unfunded actuarial accrued liability (based on the market value of assets) of approximately \$824.9 million; the actuarial value of the assets in the Retirement Plan as of such date was approximately \$12.7 billion, which would result in an unfunded actuarial accrued liability (based on the actuarial value of assets) of approximately \$1.07 billion. As of July 1, 2019, the Retirement Plan had unrecognized investment gains of approximately \$118 million. The Retirement Plan employs a 5-year smoothing technique to value assets in order to reduce the volatility in contribution rates. The impact of this will result in "smoothed" assets that are lower or higher than the market value of the assets depending upon whether the remaining amount to be smoothed is a net gain or a net loss. If the unrecognized investment gains for the year ended June 30, 2019 were recognized immediately in the actuarial value of assets, the aggregate required contributions to the Retirement Plan for such fiscal year would decrease from approximately 38.0% of total Department covered payroll to 36.9% of total Department covered payroll. Additionally, if the unrecognized investment gains in all available Retirement Plan funds were recognized immediately in the actuarial value of assets, the funded ratio of the Retirement Plan as of June 30, 2019 would increase from approximately 92.2% to 93.1%.

According to the actuarial valuation and review of the Retirement Plan, which was completed by The Segal Company on September 13, 2018, as of July 1, 2018, the market value of the assets in the Retirement Plan was approximately \$12.3 billion, which results in an unfunded actuarial accrued liability (based on the market value of assets) of approximately \$910.5 million; the actuarial value of the assets in the Retirement Plan as of such date was approximately \$12.0 billion, which would result in an unfunded actuarial accrued liability (based on the actuarial value of assets) of approximately \$1.18 billion. As of

July 1, 2018, the Retirement Plan had unrecognized investment gains of approximately \$144 million. As noted above, the Retirement Plan employs a 5-year smoothing technique to value assets in order to reduce the volatility in contribution rates. If the unrecognized investment gains for the year ended June 30, 2018 were recognized immediately in the actuarial value of assets, the aggregate required contributions to the Retirement Plan for such fiscal year would decrease from approximately 40.2% of total Department covered payroll to 38.7% of total Department covered payroll. Additionally, if the unrecognized investment gains in all available Retirement Plan funds were recognized immediately in the actuarial value of assets, the funded ratio of the Retirement Plan as of June 30, 2018 would increase from approximately 91.1% to 92.2%.

The Segal Company has not completed an actuarial valuation for the Retirement Plan since the last valuation as of July 1, 2019, one that would reflect the impact of recent market volatility resulting from the COVID-19 outbreak and its effect on the Retirement Plan. See “CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic.”

Contribution requirements for the Fiscal Year ending June 30, 2021 are set based on the asset values as of June 30, 2020, and it is not possible to predict where the market will be at that time given the current extraordinary market conditions. Significant losses in market value or the failure to achieve projected investment returns could increase unfunded pension liabilities and future pension costs. However, even if the current market volatility were to persist and the resulting asset values as of June 30, 2020 are lower than expected, the Retirement Plan uses a five-year asset smoothing period of the differences between the actual market return and the expected return on the market value of assets to manage short-term volatility, as a result of which, the immediate fiscal impact of any one year’s negative return on the Department’s contribution rates is reduced.

Effective January 1, 2014, the Board approved a new tier for new Retirement Plan members called “Tier 2.” Tier 2 provides reduced retirement benefits, requires the employee to contribute a higher percentage of pay to the Retirement Plan, and ends the reciprocity agreement with the City’s retirement plan. See “Employees” above with respect to the Coalition of L.A. City Unions’ challenge to the ending of the reciprocity agreement. According to a study of the proposed benefits of Tier 2, which was completed by The Segal Company on October 24, 2013, the estimated amount of contribution required to fund the benefit allocated to the current year of service (the “Normal Cost”), as a percentage of payroll, was 5.61% for Tier 2 (as compared to 16.35% for Tier 1), and the new tier of benefits was projected to generate a present value savings of \$877 million over 30 years (based on the 7.75% assumed rate of investment return on the Retirement Plan’s assets, which was in effect when Tier 2 was approved). According to the latest actuarial valuation and review of the Retirement Plan, which was completed by The Segal Company on September 17, 2019, the estimated contribution for Fiscal Year 2019-20 required to fund the benefit allocated to the Normal Cost, as a percentage of payroll, will be 8.83% for Tier 2 (as compared to 18.85% for Tier 1). As of the July 1, 2019 actuarial valuation report, 34% of active Department members were covered under Tier 2.

Other Postemployment Benefits (“OPEB”). The Department provides certain healthcare benefits (the “Healthcare Benefits”) and death benefits to active and retired employees and their dependents. These OPEB Benefits are more particularly described in “Note (8) Other Postemployment Benefit Plans” (“Note 8”) and the “Required Supplementary Information” of the Department’s Water System Financial Statements, attached hereto as “APPENDIX A—FINANCIAL STATEMENTS.”

The costs of the Healthcare Benefits are shared by the Water System and the Power System, with the Water System historically being responsible for approximately 33% of the costs of the Healthcare Benefits. As more fully described in Note 8, the Water System paid Healthcare Benefits of approximately \$33.6 million in Fiscal Year 2018-19 (as part of a total Department contribution of approximately \$97.6 million), and the Water System paid Healthcare Benefits of approximately \$31.2 million in Fiscal Year

2017-18 (as part of a total Department contribution of approximately \$90.8 million). For the Fiscal Year ending June 30, 2020, the Department has budgeted approximately \$38.7 million to be paid from the Water Revenue Fund for Healthcare Benefits (with the total Department paying approximately \$120.8 million). For the Fiscal Year ending June 30, 2021, the Department has budgeted approximately \$40.4 million to be paid from the Water Revenue Fund for Healthcare Benefits (with the total Department paying approximately \$126.4 million). The Department also has paid, and will continue to pay in the future, Healthcare Benefits from the Power Revenue Fund, for the Power System's Healthcare Benefits costs.

According to the latest actuarial valuation and review of the Healthcare Benefits, which was completed by The Segal Company on November 7, 2019, as of June 30, 2019, the market value of the assets of the Healthcare Benefits was approximately \$2.221 billion, which would result in an unfunded actuarial accrued liability (based on the market value of assets) of approximately \$463 million; the actuarial value of the assets in the Healthcare Benefits as of such date was approximately \$2.196 billion, which would result in an unfunded actuarial accrued liability (based on the actuarial value of assets) of approximately \$487 million. As of June 30, 2019, the Healthcare Benefits had unrecognized investment gains of approximately \$24.1 million. The actuarial valuations of the Healthcare Benefits employ a smoothing policy which requires that market gains and losses be recognized in even increments over five years. As a result, the impact of this will result in "smoothed" assets that are lower or higher than the market value of the assets depending upon whether the remaining amount to be smoothed is either a net gain or a net loss.

According to the actuarial valuation and review of the Healthcare Benefits, which was completed by The Segal Company on October 15, 2018, as of June 30, 2018, the market value of the assets of the Healthcare Benefits was approximately \$2.086 billion, which would result in an unfunded actuarial accrued liability (based on the market value of assets) of approximately \$384 million; the actuarial value of the assets in the Healthcare Benefits as of such date was approximately \$2.055 billion, which would result in an unfunded actuarial accrued liability (based on the actuarial value of assets) of approximately \$414 million. As of June 30, 2018, the Healthcare Benefits had unrecognized investment gains of approximately \$30.3 million. As noted above, the actuarial valuations of the Healthcare Benefits employ a smoothing policy which requires that market gains and losses be recognized in even increments over five years. As a result, the impact of this will result in "smoothed" assets that are lower or higher than the market value of the assets depending upon whether the remaining amount to be smoothed is either a net gain or a net loss.

The Segal Company has not completed an actuarial valuation for the Healthcare Benefits since the last valuation as of July 1, 2019, one that would reflect the impact of recent market volatility resulting from the COVID-19 outbreak and its effect on the Healthcare Benefits. See "CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic."

Contribution requirements for the Fiscal Year ending June 30, 2021 are set based on the asset values as of June 30, 2020, and it is not possible to predict where the market will be at that time given the current extraordinary market conditions. Significant losses in market value or the failure to achieve projected investment returns could increase unfunded pension liabilities for Healthcare Benefits and future contribution requirements. However, even if the current market volatility were to persist and the resulting asset values as of June 30, 2020 are lower than expected, the Healthcare Benefits uses a five-year asset smoothing period of the differences between the actual market return and the expected return on the market value of assets to manage short-term volatility, as a result of which, the immediate fiscal impact of any one year's negative return on the Department's contribution rates is reduced.

For a schedule that provides information about the Department's overall progress made in accumulating sufficient assets to pay Healthcare Benefits when due, prior to allocations to the Water System and the Power System, see the "Required Supplementary Information" of the Department's Water System Financial Statements, attached hereto as Appendix A - "FINANCIAL STATEMENTS."

Effective January 1, 2014, the Board approved a new tier for new Retirement Plan members called “Tier 2.” Tier 2 provides reduced retiree healthcare benefits. According to a study of the proposed OPEB for Tier 2 employees of the Department, which was completed by The Segal Company on November 8, 2013, the estimated Normal Cost, as a percentage of payroll, was 2.63% for Tier 2 (as compared to 4.33% for Tier 1), and the new tier of benefits was projected to generate a present value savings of \$136.5 million over 30 years (based on the 7.75% assumed rate of investment return on the OPEB plan’s assets, which was in effect when Tier 2 was approved). According to the latest actuarial valuation and review of the Healthcare Benefits, which was completed by The Segal Company on November 7, 2019, for Fiscal Year, 2019-20, the Normal Cost, as a percentage of payroll, will be 4.31% for Tier 2 (as compared to 4.78% for Tier 1).

Effective July 1, 2017, the Department follows the provisions of GASB Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions, an amendment of GASB Statement No. 45 (“GASB No. 75”). GASB No. 75 requires employers with other postemployment liabilities to disclose the net postemployment liability along with deferred inflows and outflows of resources related to the other postemployment liability. The Department adopted the provisions of GASB No. 75 beginning for the Fiscal Year ended June 30, 2018. Accordingly, the cumulative effect of the impact on net position as of July 1, 2017 was negative \$661.2 million. As of June 30, 2019, the Water System has a net OPEB liability of \$160.7 million comprised of \$123.2 million of retiree medical and \$37.5 million in death benefits. As approved by the Board, a regulatory asset has also been recorded, because this liability is expected to be funded by future revenues of the Water System. For more information about how GASB No. 75 affected the financial statements of the Water System, see “Note (4) Regulatory Assets” and “Required Supplementary Information” in the Department’s Water System Financial Statements, attached hereto as Appendix A – “FINANCIAL STATEMENTS.” Specifically, see Note 4(e) for a discussion of the Water System’s establishment of the regulatory asset discussed above.

Transfers to the City

Pursuant to the Charter, the City Council may, subject to the provisions of contractual obligations, direct a transfer of surplus money in the Water Revenue Fund to the City’s reserve fund (a “Water Transfer”) with the consent of the Board. However, the Los Angeles County Superior Court ruled that the Water Transfer was unconstitutional under Proposition 218 (as defined herein) and could not be made by the Department to the City. The City did not appeal the Court’s ruling. The Department has made no Water Transfers since Fiscal Year 2005-06 and has no current plans to make any Water Transfers in the future.

Insurance

The Department’s insurance program currently consists of a combination of commercial insurance policies and self-insurance. The Department carries commercial excess general liability insurance with a \$3 million self-insured retention. The total limit for non-wildfire losses is \$160 million, with a primary layer of \$35 million that includes 50% of co-insurance. The total limit for wildfire losses is \$190 million, with a primary layer of \$25 million of additional self-insured retention. General liability claims within the self-insured retention are covered under the Department’s self-insurance program. As of March 31, 2020, the portion of the Water Revenue Fund set aside for self-insurance had a balance of approximately \$24.8 million. The Department annually reviews the amount retained for self-insurance and may adjust such amount if it deems such adjustment appropriate. Limits maintained by the Department are subject to change depending on insurance market conditions and assessments by the Department as to risk exposure.

The Department has purchased a primary cyber insurance policy in the amount of \$50 million, with a \$1 million self-insured retention. This insurance policy covers certain types of cyber incidents and

provides reimbursement coverage for costs to respond to data privacy or security incidents and for expenses incurred in connection with the investigation, prevention, and resolution of any cyber threat.

The Department commercially insures its physical plant through a policy of all risk property insurance, which is written on a replacement cost-basis. The policy covers all risk of physical loss or damage to buildings, structures, auxiliary and main plant equipment. Such insurance has a policy loss limit of \$500 million for all claims in a single policy year. The all-risk property insurance has a multi-tiered deductible structure, with deductibles ranging from \$500,000 to \$5 million depending on location. The Department does not insure its physical plants located in the State of California (the “State”) against the risk of physical loss or damage due to earthquakes; however assets outside the State are insured against damage from earthquakes. The Department has obtained a waiver from the State Insurance Commissioner’s Office requiring Federal Emergency Management Agency (“FEMA”) insurance that enables the Department to be eligible for reimbursement from FEMA in the event of earthquake loss or damage to facilities in the State.

The Department’s physical plant coverage does not provide coverage in certain events including terrorism or war. The Department has purchased a Terrorism Limits and Terrorism Risk Insurance Extension Act of 2005 (“TRIEA”) Endorsement (the “Endorsement”) to its excess general liability coverage under which coverage is extended to cover losses resulting from certain acts certified by the Secretary of the U.S. Department of the Treasury to be an act of terrorism, as defined in TRIEA. The Endorsement provides that if the total insured losses of all property and casualty insurers reach \$100 billion during an applicable period, the Department’s insurers will not be liable under the policy for their portions of such losses that exceed such amount.

The Department continuously evaluates its insurance program and may modify the current configuration of commercial insurance and self-insurance with respect to the Water System.

Investment Policy and Controls

Department’s Trust Funds Investment Policy. The majority of the Water System funds are held in the Water Revenue Fund, investments of which are managed by the Treasurer of the City. The funds have been invested as part of the City’s investment pool program since 1983. Certain financial assets of the Department that are held in the Expense Stabilization Fund more fully described in “Note (5) – Cash, Cash Equivalents, and Investments” in “APPENDIX A—FINANCIAL STATEMENTS” with an independent trustee are not included in the City’s investment pool program. The Department manages the investment of the Expense Stabilization Fund in which approximately \$53.0 million (investments at fair market value) was on deposit as of March 31, 2020. The Department’s investment of such funds complies with the California Government Code in all material respects and such funds are invested according to the Department’s Trust Funds Investment Policy (the “Trust Funds Investment Policy”), which sets forth investment objectives and constraints. For more information about the Trust Funds Investment Policy, see “Note (5) – Cash, Cash Equivalents, and Investments” in “APPENDIX A—FINANCIAL STATEMENTS.” The Expense Stabilization Fund is held by U.S. Bank National Association as trustee/custodian.

Under the Trust Funds Investment Policy, the Department’s investment program seeks to accomplish three specific goals: (i) preserve the principal value of the funds, (ii) ensure that investments are consistent with each individual fund’s liquidity needs and (iii) achieve the maximum yield/return on the investments.

The overall responsibility for managing the Department’s investment program for the Expense Stabilization Fund rests with the Department’s Chief Financial Officer, who directs investment activities through the Department’s Assistant Chief Financial Officer and Treasurer. An Investment Committee,

comprised of the City Controller, a Board member designated by the Board President, the General Manager and the Department's Chief Financial Officer (the "Department Investment Committee") is charged with oversight responsibility. The Trust Funds Investment Policy is adopted by the Board from time to time, and fund activity is reviewed periodically by the Department Investment Committee to ensure its consistency with the overall objectives of the policy, as well as its relevance to current law and financial and economic trends.

The Department's Assistant Chief Financial Officer and Treasurer or his designee reviews all investment transactions for the Expense Stabilization Fund on a monthly basis for control and compliance and submits quarterly investment reports that summarize investment income to the Department Investment Committee, the Board and the Mayor for information and evaluation.

The following table describes the investments held in the Expense Stabilization Fund as of March 31, 2020.

WATER EXPENSE STABILIZATION FUND
INVESTMENTS
ASSETS AS OF MARCH 31, 2020
(Dollars in Thousands)
(Unaudited)

	Fair Market Value
U.S. Government Securities	\$14,838
Medium term corporate notes	10,949
U.S. Government Agencies	7,481
Other state bonds and commercial paper	6,137
Commercial paper	5,233
Municipal obligations	3,860
Certificates of deposit	3,503
Supranational obligations	1,010
Money market funds	34
Total	<u>\$53,046*</u>

Source: Department of Water and Power of the City of Los Angeles.

* Totals may not equal sum of parts due to rounding.

Note: Fair Market Value as of March 31, 2020. Table does not reflect effects of subsequent market volatility, which has been attributed to impacts associated with the COVID-19 pandemic. See "CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic."

City Investment Policy. The City Treasurer invests temporarily idle cash on behalf of the City, including that of the proprietary departments, such as the Department, as part of a pooled investment program. As of March 31, 2020, the Water System had approximately \$789.7 million of unrestricted cash and approximately \$182.2 million of restricted cash on deposit with the City. This amount is in addition to the amounts on deposit in the Expense Stabilization Fund. The City's pooled investment program combines general receipts with special funds for investment purposes and allocates interest earnings and losses on a pro-rata basis when the interest is earned and distributes interest receipts based on the previously established allocations. The primary responsibilities of the City Treasurer and the pooled investment program are to protect the principal and asset holdings of the City's portfolio and to ensure adequate liquidity to provide for the prompt and efficient handling of City disbursements. Funds invested by the Water System in the pooled investment program are available for withdrawal within five business days without penalties. In

addition, 15% of the pool, as of June 30, 2019, had maturities less than one month and 41% of the pool, as of June 30, 2019, had maturities of one year or less.

The following table describes the investments held in the City's Pooled Investment Fund (which includes amounts held in the City's General Investment Pool and the City's Special Investment Pool) as of June 30, 2019.

CITY OF LOS ANGELES POOLED INVESTMENT FUND
ASSETS AS OF JUNE 30, 2019
(Dollars in Thousands)
(Unaudited)

	Amount	Percent of Total	Water System Share
U.S. Treasury Notes	\$5,700,068	49.71%	\$ 456,623
Commercial Paper	2,590,611	22.59	207,506
Medium-Term Notes	1,488,515	12.98	119,231
U.S. Agencies Securities	1,010,212	8.81	80,926
Asset-Backed Securities	240,768	2.10	19,290
Supranational Coupons	223,242	1.95	17,912
Securities Lending Short-Term Repurchase Agreement	112,525	0.98	9,002
Short-Term Investment Funds	53,652	0.47	4,317
Municipal Bonds	45,163	0.39	3,583
Mutual Funds	2,441	0.02	184
Total General and Special Pools*	<u>\$11,467,197</u>	<u>100.00%</u>	<u>\$918,574</u>

Source: Department of Water and Power of the City of Los Angeles and Los Angeles City Treasurer.

Note: Department funds held by the City are both unrestricted and restricted funds.

Note: Fair Market Value as of June 30, 2020. Table does not reflect effects of subsequent market volatility, which has been attributed to impacts associated with the COVID-19 pandemic. See "CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic."

* Totals may not equal sum of parts due to rounding.

The City's investment operations are managed in compliance with the California Government Code and the City's statement of investment policy, which sets forth permitted investments, liquidity parameters and maximum maturity of investments. The investment policy is reviewed and approved by the City Council on an annual basis.

Monthly reports of investment activity are presented to the Mayor, the City Council and the Department to indicate, among other things, compliance with the investment policy. The City's Office of Finance does not invest in structured and range notes, securities that could result in zero interest accrual if held to maturity, variable rate, floating rate or inverse floating rate investments and mortgage-derived interest or principal-only strips.

The investment policy permits the City's Office of Finance to engage custodial banks to enter into short-term arrangements to lend securities to various brokers. Cash and/or securities (United States Treasuries and Federal Agencies only) collateralize these lending arrangements, the total value of which is required to be at least 102% of the market value of securities loaned out. The securities lending program is limited to a maximum of 20% of the market value of the City's Office of Finance's pool by the City's investment policy and the California Government Code.

For more information about the investments in the City's Office of Finance pool, see "Note (5)—Cash, Cash Equivalents, and Investments" in "APPENDIX A—FINANCIAL STATEMENTS".

WATER RATES

Water Rate Ordinance

General. Under the Charter, the rates and charges for water and water services provided by the Department (the "Water Rates") are set by the Board subject to approval by the City Council by ordinance (the "Water Rate Ordinance"). The Charter also provides that such rates will, except as otherwise authorized by the Charter, be of uniform operation for customers of similar circumstances throughout the City, as near as may be, and will be fair and reasonable, taking into consideration, among other things, the nature of the uses, the quantity supplied and the value of the service.

The Water Rate Ordinance establishes base rates ("Base Rates") based on the volume of water consumed and an annual high and low season based on the historic wet and dry periods of the year. In addition to the Base Rates, the Water Rate Ordinance includes pass-through adjustments ("Pass-Through Adjustments") to provide revenues with respect to special categories of expenses, including water purchased from the Metropolitan Water District of Southern California ("Metropolitan"). Changes in Water Rates which are within the limits of the Water Rate Ordinance do not constitute a change in the Water Rate Ordinance and are instituted by Board action and do not require City Council approval. The Water Rate Ordinance also contains special provisions for specified classes of customers, including low income persons, recycled water users, and certain large turf and agricultural, commercial and industrial customers.

Current Water Rates and Rate Structure. The current Water Rate Ordinance was enacted by the City Council on March 15, 2016, and went into effect on April 15, 2016. The Water Rate Ordinance includes, among other things (i) increased Base Rates for single-family residential customers, multi-dwelling unit residential customers and commercial, industrial and governmental and temporary construction customers in each Fiscal Year between Fiscal Year 2015-16 (rates went into effect on April 15, 2016 for Fiscal Year 2015-16) and Fiscal Year 2019-20, (ii) Base Rates for single-family residential customers on a four-tier system (Base Rates for single-family residential customers under the previous Water Rate Ordinance, which was replaced on April 15, 2016 (the "Previous Water Rate Ordinance"), had only two tiers) based on the volume of water consumed and an annual high and low season based on the historic wet and dry periods of the year, and (iii) seven Pass-Through Adjustments.

Average total Water Rates per one hundred cubic feet of metered water for all customer classes were \$4.96 in Fiscal Year 2014-15 and are expected to be \$6.79 in Fiscal Year 2019-20. See "—Water Rates Between Fiscal Years 2014-15 and 2018-19" below. Based on the Department's current financial plan, Base Rates for Fiscal Year 2020-21 are expected to stay the same as the Base Rates in effect for Fiscal Year 2019-20. See "—Procedures for Changes to the Water Rate Ordinance—Interim Rate Review" for a discussion of the Department's current plans to bring a new rate action to the Board in 2021.

The Pass-Through Adjustments are determined by the Board, generally on an annual or semi-annual basis (as described in further detail below). The Water Rate Ordinance does not contain a limit on the increases in the Pass-Through Adjustment for water procurement regarding purchased water, including water purchased from the Metropolitan. The Water Rate Ordinance also does not include limits on the other Pass-Through Adjustments, except the Low-Income Subsidy Adjustment (defined below), which can only be increased at a maximum rate of \$0.030 per one hundred cubic feet of water semi-annually. The Water Rate Ordinance includes the following Pass-Through Adjustments:

- The water supply cost adjustment (the “Water Supply Cost Adjustment”) is designed to recover the costs of purchasing water, including water purchased from Metropolitan, operation and maintenance expenses for in-City pumping, conservation programs and reclaimed water. The Water Supply Cost Adjustment also will be used to align tier rates directly with water supply costs based on the cost of supply and level of usage. The Water Supply Costs Adjustment is calculated two times each year and takes effect on the following January 1 and July 1, respectively.
- The water quality improvement adjustment (the “Water Quality Adjustment”) is designed to recover the costs of equalizing water quality throughout the City, meeting State and federal water quality standards, and providing security for the water supply, storage and conveyance infrastructure and related facilities, including construction, operation and maintenance and the payment of debt service on bonds issued for such purposes. The Water Quality Adjustment is calculated two times each year and takes effect on the following January 1 and July 1, respectively.
- The base rate revenue target adjustment (the “Base Rate Revenue Target Adjustment”) is designed to collect additional revenue or credit over-collected revenue to customers based on the consumption of the specific customer group in order to ensure complete recovery of the base rate revenue for each customer group. The Department will set annual Base Rate revenue targets and track the over and under-recovery for each customer group. The annual Base Rate revenue target for Fiscal Year 2019-20 is \$507.9 million, and is also expected to be \$507.9 million for Fiscal Year 2020-21. The Base Rate Revenue Target Adjustment will recover/credit any shortages/overages in base rate revenue due to variations between projected and actual water sales. The Base Rate Revenue Target Adjustment is calculated one time each year and takes effect on the following January 1.
- The Owens Valley regulatory adjustment (the “Owens Valley Regulatory Adjustment”) is designed to recover capital and operating and maintenance costs of the Owens Lake Dust Mitigation Program, the Lower Owens River Project and the Owens Lake Master Project. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments” for additional information on the Owens Lake Dust Mitigation Program and Lower Owens River Project. The Owens Valley Regulatory Adjustment is calculated two times each year and takes effect on the following January 1 and July 1, respectively.
- The low-income subsidy adjustment (the “Low-Income Subsidy Adjustment”) is designed to recover the costs of credits provided to lifeline and low-income customers. The Water Rate Ordinance sets a limit on the amount of any increase to the Low-Income Subsidy Adjustment that may be approved each Fiscal Year. The Low-Income Subsidy Adjustment is calculated two times each year and takes effect on the following January 1 and July 1, respectively. From Fiscal Year 2014-15 through and including Fiscal Year 2018-19, revenues recovered through the Low-Income Subsidy Adjustment were, on average, approximately \$22.3 million in each Fiscal Year.
- The water infrastructure adjustment (the “Water Infrastructure Adjustment”) is designed to recover the capital costs of specific investments to maintain and improve the reliability of the water distribution system. The Water Infrastructure Adjustment is calculated once each year and takes effect on the following July 1.

- The water expense stabilization adjustment (the “Water Expense Stabilization Adjustment”) is designed to recover any shortfalls between the target determined by the Chief Financial Officer for the Expense Stabilization Fund and the fund’s balance in order to stabilize rates in the event of unforeseen events impacting water service delivery and also the expense for legal and court costs or any judgment or settlement through application of the Water Expense Stabilization Adjustment factor. The Water Expense Stabilization Adjustment is calculated once each year and takes effect on the following January 1. As of March 31, 2020, approximately \$53.0 million was on deposit in the Expense Stabilization Fund.

In addition to the Water Rates, a utility project charge can be imposed on the Department’s customers in order to secure the repayment of “rate reduction bonds” pursuant to California Assembly Bill 850, as amended. As of the date of this Official Statement, a utility project charge has not been imposed on the Department’s customers; however, the Department’s current plan of finance for its capital improvement program includes the issuance of “rate reduction bonds” in Fiscal Years 2023–24 and 2024–25. See “WATER SYSTEM INFRASTRUCTURE PROGRAM—Projected Capital Improvements” for additional information with respect to the “rate reduction bonds”.

Water Rates Between Fiscal Years 2014–15 and 2018–19

Overall Water Rates (including the costs of water purchased from Metropolitan) increased approximately 3.2% during Fiscal Year 2018–19 as compared to Fiscal Year 2017–18. The increased Water Rates in Fiscal Year 2018–19 were mainly as a result of increases in Owens Valley Regulatory Adjustment Factor (42.6%) and the Base Rate Revenue Target Adjustment factor (52.0% or \$0.21). Overall Water Rates (including the costs of water purchased from Metropolitan) increased approximately 15.0% during Fiscal Year 2017–18 as compared to Fiscal Year 2016–17. The increased Water Rates in Fiscal Year 2017–18 were mainly as a result of increases in Base Rates (12.4%), the Water Infrastructure Adjustment factor (29.6%) and the Base Rate Revenue Target Adjustment factor (134.0% or \$0.21). See “WATER SUPPLY—Sources of Water Supply.”

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The application of the Department's rate structure resulted in the following average rates for its customer classes and for its rate components for the last five Fiscal Years.

WATER SYSTEM AVERAGE RATES ¹					
	Fiscal Year Ended June 30				
	2015 ³	2016 ^{4,5}	2017	2018	2019
<u>Average Rates Per Customer Class</u>					
Single-Family Residential	\$5.06	\$5.12	\$6.00	\$7.16	\$7.30
Multi-Family Residential	\$4.90	\$4.94	\$5.35	\$6.21	\$6.66
Commercial, Governmental & Industrial	\$4.89	\$4.70	\$5.33	\$5.72	\$5.77
Total System Average Rate (All Customer Classes) ²	\$4.96	\$4.93	\$5.59	\$6.43	\$6.63
<u>Average Rates Per Water Rate Component</u>					
Purchased Water	\$1.99	\$1.41 ⁶	\$1.61	\$1.80	\$1.77
Other Rate Components	2.97	3.51	3.98	4.63	4.86
Total System Average Rate ²	\$4.96	\$4.93	\$5.59	\$6.43	\$6.63

Source: Department of Water and Power of the City of Los Angeles.

¹ Rates are per one hundred cubic feet of metered water usage.

² Amounts may not total due to rounding.

³ Rates collected under the Previous Water Rate Ordinance.

⁴ Includes rates under the Previous Water Rate Ordinance through April 15, 2016 and rates under the current Water Rate Ordinance starting on April 15, 2016.

⁵ Does not include \$90.8 million of rates that were collected pursuant to the Base Rate Revenue Target Adjustment factor (which replaced the water revenue adjustment factor under the Previous Water Rate Ordinance). The \$90.8 million was billed to the Department's customers between January 1, 2017 and December 31, 2018 at a rate of \$0.235, \$0.339 and \$0.105 per one hundred cubic feet of metered water usage for Single-Family Residential, Multi-Family Residential and Commercial, Governmental & Industrial, respectively.

⁶ As of April 15, 2016, the Purchased Water component was replaced with the Water Supply Cost Adjustment factor, which includes the cost of purchased water, Los Angeles Aqueduct water, groundwater, recycled water, water conservation and any other sources of water.

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For Fiscal Years 2014–15 through 2018–19, on average, approximately 49.2% of the Department’s water supply was provided from purchases of water from Metropolitan. However, for Fiscal Years 2016–17, 2017–18 and 2018–19, mainly as a result of record rainfall and snowfall that occurred in the State, only 35.5%, on average, of the Department’s water supply was provided from purchases of water from Metropolitan. As set forth in the following table, over the last five calendar years, the price of water purchased from Metropolitan has increased approximately 27%.

Price of Water Purchased from Metropolitan	
Calendar Year	Price Per Acre-Foot
2016	\$594
2017	666
2018	695
2019	731
2020	755

Source: Metropolitan Water District of Southern California.

Metropolitan’s board of directors approved a full-service untreated tier 1 rate of \$755 per acre-foot beginning on January 1, 2020 (a 3.3% increase over the rate that was in effect for the year ended December 31, 2019). All Metropolitan water rate increases are passed through to the Department’s customers under the Water Supply Cost Adjustment factor and such increases are not subject to the procedures for changes to the Water Rate Ordinance, including City Council approval. The Department is required to provide 30-days’ notice to its customers before the effective date of any increase in rates resulting from an increase in Metropolitan’s rates. The Department expects Metropolitan water rates to increase in the future; however, at this time, the Department cannot predict the magnitude of these increases. See “LITIGATION—Lawsuit Against Metropolitan” with respect to a lawsuit brought by the San Diego County Water Authority against Metropolitan challenging certain of Metropolitan’s rates.

Procedures for Changes to the Water Rate Ordinance

General. Under the Charter, changes to the Water Rate Ordinance are initiated by Board resolution and are subject to City Council approval by ordinance. A change in the Water Rate Ordinance to increase water rates is subject to Proposition 218, under which a majority protest would prevent such increase. See “Proposition 218” below. In addition, changes to the Water Rate Ordinance are subject to review within the City as described in “Neighborhood Councils” and “Office of Public Accountability” below.

The authority of the Board to impose and collect Water Rates and charges is not subject to the general regulatory jurisdiction of the California Public Utilities Commission (“CPUC”) or any other state agency. It is possible that future legislative and/or regulatory changes could subject Water Rates and/or the service area of the Department to the jurisdiction of the CPUC or to other limitations or requirements.

In addition to the rate increases approved by the City Council on March 15, 2016 and that became effective on April 15, 2016, the Department expects to request additional increases to the Water Rates in future Fiscal Years, which will be required, among other reasons, to fully fund the Department’s Water System capital improvement program, including the projects necessary to comply with federal and State water quality mandates. See “CERTAIN INVESTMENT CONSIDERATIONS—Costs of Capital Improvement Program; Increased Water Rates.”

Neighborhood Councils. Pursuant to a Memorandum of Understanding with the City's Neighborhood Councils, the Department agreed to use its best efforts to undertake a 90-day or 120-day notification and outreach period (depending on the duration of the Department's proposed rate action) prior to submitting a residential or non-residential retail business customer water rate increase proposal involving changes to the Water Rate Ordinance to the Board for approval. The Neighborhood Councils have indicated they will use their best efforts to provide written input regarding such rate proposals to the Department within 60 days of receiving the above-discussed notifications. In connection with the current Water Rate Ordinance, the Department gave the City's Neighborhood Councils 120 days' notice prior to submitting the current Water Rate Ordinance to the Board.

Office of Public Accountability. Section 683 of the Charter established the Office of Public Accountability (the "OPA") with respect to the Department. The primary role of the OPA is providing public, independent analysis to the Board and City Council about Department actions as they relate to water rates and electric rates. The role of the OPA is advisory rather than an approver of such rates. The OPA is headed by an Executive Director appointed by a citizens committee, subject to confirmation by the City Council and Mayor, who serves as the Ratepayer Advocate for the OPA. On February 1, 2012, Dr. Frederick H. Pickel was appointed as Executive Director of the OPA (the "Ratepayer Advocate"); and on December 5, 2018, Dr. Pickel was reappointed as the Ratepayer Advocate for a five-year term. Pursuant to the report of the Ratepayer Advocate dated December 11, 2015, the Ratepayer Advocate determined that the Water System rate action that is described under "—Water Rate Ordinance—Current Water Rates and Rate Structure" above, is "just and reasonable."

Recent Public Outreach Process. The Department typically undertakes a public outreach process to inform customers of planned rate changes apart from recurring Pass-Through Adjustments. The last major Water Rate outreach commenced in 2015 when the Department initiated a public review process of the Department's then-proposed rate restructuring described above under "—Water Rate Ordinance—Current Water Rates and Rate Structure." Such outreach involved over 55 meetings with the public, Neighborhood Councils, business groups and other interested stakeholders. Additional outreach was conducted through printed and electronic media. The 2015 outreach culminated in the enactment of the current Water Rate Ordinance by City Council on March 15, 2016.

Interim Rate Review. The current rate action covers a 5-year period from Fiscal Year 2015-16 through Fiscal Year 2019-20. In 2019, the Department and the OPA each conducted their ordinance-mandated independent interim rate review of the current Water Rate Ordinance. As part of this review, the Board made no changes to the Base Rate revenue targets as stated in the Water Rate Ordinance for Fiscal Years 2018-19 and 2019-20. In accordance with the Water Rate Ordinance, for Fiscal Year 2020-21 and each Fiscal Year thereafter, the Base Rate revenue targets are established by the Board by resolution prior to the start of the respective Fiscal Year. Based on the Department's current financial plan, the Base Rate revenue target for Fiscal Year 2020-21 is expected to stay the same as the Base Rate revenue target in effect for Fiscal Year 2019-20.

As part of the interim rate review, the OPA recommended, and the Department supports the recommendation, to use a four-year rate action cycle, rather than replicate the current five-year rate action cycle. The Department currently plans to formally propose the next rate action to the Board no later than January 1, 2021, with the goal that such rate action be presented to the Board for its final approval by May 1, 2021, and take effect by October 1, 2021.

Proposition 218. On November 5, 1996, the voters of the State approved Proposition 218, known as the "Right to Vote on Taxes Act" ("Proposition 218"). Proposition 218 added Articles XIII C and XIII D to the State Constitution, which contain a number of provisions affecting the ability of local governments to levy and collect both existing and future taxes, assessments, fees, and charges. The City is a local

government within the meaning of Articles XIIC and XIID, and the Water Rates are fees and charges within the meaning of Articles XIIC and XIID.

Section 3 of Article XIIC expressly extends the initiative power to give voters the power to reduce or repeal local taxes, assessments, fees and charges, regardless of the date such taxes, assessments, fees or charges were imposed. This extension of the initiative power is not limited by the terms of Article XIIC to fees imposed after November 6, 1996, the effective date of Proposition 218, and absent other legal authority could result in the reduction in any existing taxes, assessments or fees and charges imposed prior to November 6, 1996. “Fees” and “charges” are not expressly defined in Article XIIC or in SB 919, the Proposition 218 Omnibus Implementation Act (“SB 919”), which was enacted in 1997 to prescribe specific procedures and parameters for local jurisdictions in complying with Article XIIC and Article XIID. However, on July 24, 2006, the California Supreme Court ruled in *Bighorn-Desert View Water Agency v. Verjil* (the “Bighorn Decision”) that charges for ongoing water delivery are property-related fees and charges within the meaning of Article XIID and are also fees or charges within the meaning of Section 3 of Article XIIC. The California Supreme Court held that such water service charges may, therefore, be reduced or repealed through a local voter initiative pursuant to Section 3 of Article XIIC, although the water agency’s governing board may then raise other fees or impose new fees without prior voter approval.

The California Supreme Court stated in the Bighorn Decision that it was not holding that the initiative power is free of all limitations and was not determining whether the initiative power is subject to the statutory provision requiring that water service charges be set at a level that will pay debt service on bonded debt and operating expenses. Such initiative power could be subject to the limitations imposed on the impairment of contracts under the contract clause of the United States Constitution. Additionally, SB 919 provides that the initiative power provided for in Proposition 218 “shall not be construed to mean that any owner or beneficial owner of a municipal security, purchased before or after (the effective date of Proposition 218) assumes the risk of, or in any way consents to, any action by initiative measure that constitutes an impairment of contractual rights” protected by the United States Constitution. However, no assurance can be given that the City’s voters will not, in the future, approve an initiative which reduces or repeals local taxes, assessments, fees or charges.

Article XIID requires that any agency imposing or increasing any property-related fee or charge must provide written notice thereof to the record owner of each identified parcel upon which such fee or charge is to be imposed and must conduct a public hearing with respect thereto. The proposed fee or charge may not be imposed or increased if a majority of owners of the identified parcels file written protests against it. As a result, the local government’s ability to increase such fee or charge may be limited by a majority protest.

In addition, Article XIID also includes a number of limitations applicable to existing fees and charges including provisions to the effect that (i) revenues derived from the fee or charge shall not exceed the funds required to provide the property-related service; (ii) such revenues shall not be used for any purpose other than that for which the fee or charge was imposed; (iii) the amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel; and (iv) no such fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Property-related fees or charges based on potential or future use of a service are not permitted.

The Department believes that it has complied with the requirements of Proposition 218 with respect to the Water Rates currently charged under the Water Rate Ordinance and the Water Rate increases approved as part of the enactment of the Water Rate Ordinance in March 2015. Such compliance included mailing of notices to affected property owners (and separately, to ratepayers) and holding public hearings. The Department also expects to comply with the requirements of Proposition 218 with respect to future

proposed Water Rate increases. See “LITIGATION—Water Rates Litigation” for a discussion of a lawsuit recently filed by certain ratepayers of the Department that allege, among other things, that the Water Rates currently charged under the Water Rate Ordinance are unconstitutional and violate Proposition 218.

In the event that proposed increased rates or charges cannot be imposed as a result of a majority protest or an initiative, such circumstances may adversely affect the ability of the Department to generate revenues sufficient to pay the principal of or the interest on the Series A Bonds. However, as a matter of practice, the Department endeavors not to make significant financial commitments including capital spending or issuance of Bonds without having rate levels approved to cover such obligations. Accordingly, in the event that needed rate increases are not forthcoming, the Department would aim to adjust spending levels accordingly.

As discussed above, Article XIIC extends the initiative power in matters of local taxes, assessments, fees, and charges. In addition, the California Supreme Court held in the Bighorn Decision that charges for ongoing water delivery are fees or charges within the meaning of Section 3 of Article XIIC. Consequently, the voters of the City could, by future initiative, repeal, reduce, or prohibit the future imposition or increase of any local tax, assessment, fee or charge, including the Department’s water rates. While no assurance can be given that the voters of the City will not, in the future, approve initiatives which repeal, reduce or prohibit the future imposition or increase of local taxes, assessments, fees, or charges, including the Department’s water rates, the Department may set entirely new rates or increase other charges to service obligations payable from the Water Revenue Fund, subject to its rate adjustment and approval procedures, without prior voter approval.

Proposition 26. In 2010, California voters approved Proposition 26 (“Proposition 26”), an initiative measure amending Article XIIC of the State Constitution to add a new definition of “tax”. Each such tax cannot be imposed, extended or increased by a local government without voter approval. Article XIIC of the State Constitution, as amended by Proposition 26, defines “tax” to include any levy, charge, or exaction imposed by a local government, except, among other things, (a) charges imposed for benefits conferred, privileges granted, or services or products provided, to the payor (and not to those not charged) that do not exceed the reasonable costs to the local government of conferring, granting or providing such benefit, privilege, service, or product, and (b) property-related fees imposed in accordance with the provisions of Article XIID of the State Constitution (see “Proposition 218 above”). The Department believes that its water rates and charges do not constitute taxes as defined in Article XIIC of the State Constitution.

Board Adopted Financial Planning Criteria

The Board has directed the Department to use the following criteria when preparing the Water System’s financial plans with respect to Water Rates: (i) maintain a minimum debt service coverage at 1.70 times, (ii) maintain a minimum operating cash target of the equivalent of 150 days of operating expenses, and (iii) maintain a debt-to-capitalization ratio of less than 65%. These criteria are subject to ongoing reviews and adjustments by the Board with advice from the Department’s municipal advisors and were last revised on May 20, 2014. The Water Rates being charged under the Water Rate Ordinance are designed to meet these criteria.

Rate Covenant

The Board is obligated under the Charter and the Master Resolution to establish rates for water service and collect charges in an amount which, together with other available funds, will be sufficient to service the Department’s Water System indebtedness and to meet its expenses of operation and maintenance. See “SOURCE OF PAYMENT—Rate Covenant” for details related to such rate covenant.

Billing and Collections

With some limited exceptions, the Department currently bills residential customers on a bimonthly basis and commercial and industrial customers on a monthly basis. The Department prepares bills covering water and electric charges and non-Department charges (such as sewer services, solid waste resources fee and State and local taxes). The utility project charge associated with the “rate reduction bonds,” expected to be issued in Fiscal Years 2023–24 and 2024–25, also will be included on the bills the Department sends to its customers. Payments are posted in the following order: overdue receivables, customer deposits, water charges (including the utility project charge associated with the rate reduction bonds), electric charges, State and local taxes, sewer service charges, solid waste resources fees and bulky item fees. Within overdue receivables, payments received are applied in the same order for which payments are posted for current receivables.

In September 2013, the Department launched a new customer information and billing system, designed and implemented by Pricewaterhouse Coopers LLP. Immediately following the launch of the new billing system, the Department experienced numerous billing issues in connection with the new system, including, but not limited to, (a) the inability to issue bills to customers, (b) the inability to issue accurate bills to customers, (c) an increase in estimated bills that were sent to customers where metering information was not available, and (d) the inability to generate multiple business reports, including financial reports reflecting the Department’s accounts receivable. See “LITIGATION—Legal Actions Related to New Customer Information and Billing System.”

Prior to the billing issues discussed above and based on annual historical experience of delinquencies, the Department historically has been unable to collect approximately 0.7% of the amounts billed to its customers. This amount may potentially increase in connection with the ongoing resolution of the billing issues noted above, as there has been a higher proportion of customer accounts receivable that were considered past due. However, the allowance for doubtful accounts for the Fiscal Year ended June 30, 2019 was decreased to approximately 0.16% of Water System sales, creating an allowance of \$47.2 million as of June 30, 2019. Water System accounts receivables (including the Culver City utility user’s tax) as of June 30, 2019 were \$116 million compared to \$144.9 million as of June 30, 2018. Of these amounts \$41.2 million (35.5% of total receivables) and \$51.1 million (35.3% of total receivables) were considered past due (120 days or more past the payment due date) as of June 30, 2018 and June 30, 2019, respectively. As of April 30, 2020, the Water System’s allowance for doubtful accounts was \$47.2 million and accounts receivable were \$122.7 million (including the Culver City utility user’s tax, which is subsequently transferred to Culver City). Of these amounts \$42.5 million (34.7% of total receivables) were 120 days or more past the payment due date. As part of the implementation of new write-off procedures beginning in the fourth quarter of Fiscal Year 2018–19, the Department reduced accounts receivable and the allowance for doubtful accounts by \$12.3 million representing closed accounts that were uncollectible in June 2019, and additional reductions to these accounts are anticipated. Due to hot weather in the summer and associated higher bills and the Department’s bimonthly billing process, accounts receivable balances generally increase in the late summer and autumn and generally decrease in the winter and spring. These accounts receivable balances include inactive accounts. Inactive accounts that are included in accounts receivable that cannot be linked to an active account will be written off as uncollectible.

As of the date of this Official Statement, the Department has not experienced any material reduction in the payment of bills as a result of the COVID–19 pandemic. In response to the COVID–19 pandemic, the Department will not shut off water to customers for the remainder of calendar year 2020 if they are not able to pay their bills due to financial hardship. Ultimately, customers are still responsible to pay the billed amounts and the Department will work with customers by providing payment options. See “CERTAIN INVESTMENT CONSIDERATIONS–COVID–19 Pandemic.”

The new customer information and billing system is currently being used by the Department. The Department continues to work to improve the functionality of the system to meet the Department's original expectations for the new system.

In January 2017, the Board adopted a "Customer Bill of Rights," which was developed by the Department in consultation with Mayor Eric Garcetti and is designed to improve service for Department customers. On February 26, 2019, the Board extended the "Customer Bill of Rights" indefinitely.

THE WATER SYSTEM

Inception of Water System

The City is located in a semi-arid region with little native water. Water and the infrastructure that delivers it have always been important to the growth of the City. At and prior to its founding, the City relied on the Los Angeles River for its water supply. Los Angeles River water was channeled through a distribution system of crude dams, water wheels and ditches. In 1860, the City's water company completed its first domestic water system. On February 3, 1902, the City formally took ownership of the first City municipal water works system.

The population of the City increased from 5,728 in 1870 to 102,479 by 1900 and the City faced a serious water shortage. The new City water system, under the leadership of William Mulholland, its first superintendent and chief engineer, began enlarging the distribution system fed by the Los Angeles River. Greater storage capacity was provided to conserve a larger portion of the river's flow. Construction of new reservoirs and distribution mains provided added capacity and efficiency for the system. Conservation efforts were initiated with the installation of meters to discourage wasteful use of water.

Origins of the Los Angeles Aqueduct System; Recent Events Affecting the Los Angeles Aqueduct System

Origins of the Los Angeles Aqueduct System. To meet increasing demand, City water engineers explored the watersheds surrounding the City but did not find an adequate water source. Their search eventually led over 200 miles north to the eastern slopes of the Sierra Nevada Mountains. Lying between the High Sierra and the White Mountains is the Owens Valley and the Owens River and its Long Valley and Pleasant Valley tributaries. Surveys determined that snowmelt from the mountain ranges bordering the valley were sufficient to provide additional water for the City's needs. In 1905, voters of the City approved a bond issue of \$1.5 million to purchase Owens Valley lands and water rights. Two years later, voters of the City approved another bond issue of \$23 million for construction of the Los Angeles Owens River Aqueduct (the "First Los Angeles Aqueduct"). In 1907, construction began on the First Los Angeles Aqueduct and on November 5, 1913 the first water from the aqueduct arrived in the City. The First Los Angeles Aqueduct is a 233-mile gravity-flow aqueduct from the Owens River, near the town of Independence, California to Los Angeles. The First Los Angeles Aqueduct has a capacity of 280,000 acre-feet per year of water (approximately 250 million gallons per day).

In 1940, the Department received permits to divert water from four streams that are tributary to Mono Lake, located in the Mono Basin. The Mono Basin is located north of the Owens Valley on the eastern slope of the Sierra Nevada Mountains. In 1940, the City extended the First Los Angeles Aqueduct north to access water from the Mono Basin.

In June 1970, the Department placed in service the Second Los Angeles Owens River Aqueduct (the "Second Los Angeles Aqueduct" and together with the First Los Angeles Aqueduct, the "Los Angeles Aqueduct"), a 137-mile aqueduct from Haiwee Reservoir, just south of Owens Lake to the City. The

Second Los Angeles Aqueduct has a capacity of 210,000 acre-feet per year of water (approximately 187 million gallons per day). The Second Los Angeles Aqueduct added transport capacity to the Los Angeles Aqueduct system in order to utilize the Department's surface water rights in the Mono Basin, and increase surface water exports and groundwater pumping from the Owens Valley. The Second Los Angeles Aqueduct supplements the capacity of the First Los Angeles Aqueduct. The Second Los Angeles Aqueduct cannot be operated independently of the First Los Angeles Aqueduct. See "WATER SYSTEM INFRASTRUCTURE PROGRAM."

Origins of Metropolitan

As the population of Southern California continued to grow in the 1920's, additional water sources were sought from the Colorado River, 300 miles east of the City. In 1928, the City joined with other Southern California cities to form Metropolitan. Metropolitan is a major supplier of wholesale water to its member agencies, including the City. Metropolitan delivers water to its members via the Colorado River Aqueduct (defined below) and the California Aqueduct (defined below), which is a part of the State Water Project (defined below). In 1931, voters approved a \$220 million bond issue to finance construction of an aqueduct owned and operated by Metropolitan (the "Colorado River Aqueduct") to transport water from the Colorado River to Southern California. The Colorado River Aqueduct began delivering Colorado River water to Southern California in 1941.

In 1960, the voters of the State approved a \$1.75 billion bond issue to provide the initial funding for the California State Water Project (the "State Water Project"). The State Water Project is a 550-mile water delivery system owned by the State and operated by the Department of Water Resources. The State Water Project includes the approximately 444-mile Edmund G. Brown California Aqueduct (the "California Aqueduct"), which began water deliveries from Northern California to Southern California in the early 1970s.

Distribution System

The Department's distribution system has met increased demands on the Water System for both domestic, commercial and fire supply water. Water is distributed to customer service connections through approximately 7,336 miles of water mains and trunk lines, ranging from 2 inches to 120 inches in diameter. In addition, the Department serves approximately 60,988 fire hydrants, 743,533 active-service/customer connections and meters, and a wide variety of appurtenant devices. Because of the range in elevation (sea level to 2,400 feet), the City's approximate 473 square-mile area has been divided into 111 pressure zones. Most of the Department's 84 booster pumping stations included in the Water System are designed to provide water service at elevations higher than the gravity system can supply. See "WATER SYSTEM INFRASTRUCTURE PROGRAM."

Storage

Water storage is essential for the conservation of water during low demand, cold or wet periods and to supply the extra water needed during warm weather or emergency situations.

The Water System's 124 storage tanks and reservoirs range in size from 10 thousand gallons to 60 billion gallons and have a current capacity of approximately 323,000 acre-feet of water. Eight aqueduct reservoirs provide approximately 96% of the Water System's storage capacity. The following table shows the Water System's current storage capacity (not including groundwater stored in the San Fernando Basin).

CURRENT STORAGE CAPACITY

	High Water Elevation ¹	Spillway Elevation ¹	Acre-Feet	Millions of Gallons
Aqueduct Reservoirs:				
Crowley Lake	6,782	6,782	183,249	59,712
Grant Lake	7,130	7,130	47,171	15,502
Bouquet	2,991 ³	2,993	32,522 ³	10,597
Tinemaha	3,866 ²	3,873	6,306 ²	2,054
North Haiwee	3,758 ²	3,761	10,040 ²	3,272
South Haiwee	3,742	3,742	27,774	9,050
Fairmont No. 2	3,033	3,033	491	160
Pleasant Valley	4,390 ²	4,398	2,989 ²	974
Total			<u>310,542</u>	<u>86,960</u>
Local Reservoirs:				
Los Angeles		1,175	10,170	3,314
Upper Stone Canyon		930	422	138
Santa Ynez		720	359	117
Eagle Rock		957	254	83
Van Norman Bypass		1,158	240	78
Lower Franklin		580	206	67
Elysian		462	168	55
Headworks Reservoir East		511	196	55
107 smaller reservoirs and tanks			805	262
Total			<u>12,820</u>	<u>4,169</u>
Grand Total⁴			<u>323,362⁴</u>	<u>91,129⁴</u>

Source: Department of Water and Power of the City of Los Angeles.

¹ Feet above sea level.

² Due to seismic constraints, high water elevation is lower than spillway elevation.

³ Due to operational restrictions, high water elevation is lower than spillway elevation.

⁴ As of June 30, 2019, approximately 258,715 acre-feet (approximately 84,303 million gallons) of water was stored in the aqueduct and local reservoirs. As of June 30, 2018, approximately 209,000 acre-feet (approximately 68,100 million gallons) of water was stored in the aqueduct and local reservoirs. As of June 30, 2017, approximately 234,000 acre-feet (approximately 76,300 million gallons) of water was stored in the aqueduct and local reservoirs.

The Department also stores groundwater in the San Fernando Basin, as described under “WATER SUPPLY—Local Groundwater—Stored Groundwater.”

In addition to its current storage facilities, the Department has the ability to use five other in-City reservoirs for storage in the event of an emergency (e.g. earthquake). The five reservoirs are currently not in use, but have the capacity to store approximately 26,825 acre-feet of water (approximately 8,741 million gallons).

Water Treatment Facilities

Filtration. The Department owns and operates several types of water treatment facilities that treat water to meet drinking water regulations and to ensure the safety of the water provided to the public. The Los Angeles Aqueduct Filtration Plant (the “Filtration Plant”), a water filtration plant utilizing ozone as the primary disinfectant located in Sylmar, filters the Los Angeles Aqueduct water supply to meet State

regulations relating to fine silt particles that cause cloudiness in water (also known as turbidity). Turbidity has been shown to protect micro-organisms from the effects of disinfection.

The Department also owns two microfiltration plants located at the Lower Stone Canyon reservoir (the “Lower Stone Canyon MF Plant”) and the Encino reservoir (the “Encino MF Plant”). Neither of these microfiltration plants are currently being operated. The Lower Stone Canyon MF Plant was shut down in May 2014 when the Department completed the conversion from chlorine to chloramine described in the following paragraph “Disinfection.” Ammoniation treatment facilities would need to be added to the Lower Stone Canyon MF Plant before it could resume operations. The amount of water stored at the Encino reservoir is substantially low and not currently needed; and therefore, the Encino MF Plant is not currently operating.

Disinfection. All City water supplies have been disinfected with chlorine since the early 1930s. The Department currently maintains 42 water treatment facilities, including 22 chlorination and seven ammoniation treatment facilities to treat both surface and groundwater supplies. To comply with the United States Environmental Protection Agency (the “EPA”) rules, the Department converted its secondary disinfection from chlorine to chloramine disinfection in the spring of 2014. A requirement of the chloramines conversion was to construct an ultraviolet treatment plant downstream of the Filtration Plant. The ultraviolet treatment plant named the Pankaj Parekh Ultraviolet Treatment Plant was placed in service in the spring of 2014.

Groundwater Treatment. Unremediated contamination from historical urban and industrial activities adversely affect local well fields in the San Fernando Basin, the Central Basin, the Sylmar Basin and the West Coast Basin. In the early 1980s, trichloroethylene (“TCE”) and perchloroethylene, also known as tetrachlorethene (“PCE”), contamination were found in some wells in the San Fernando Basin. Two groundwater treatment facilities, the North Hollywood Operable Unit and the Pollock Wells Treatment Plant, were built and operated by the Department to remove volatile organic compounds such as TCE and PCE from the water. In late-2009, the Department completed construction of a Pilot Treatment Plant utilizing liquid-phase granular activated carbon at the Tujunga Well Field to remove volatile organics from two wells. See “WATER SUPPLY—Local Groundwater.” The Department is planning a series of response actions in the San Fernando Basin to remediate, contain, cleanup and remove groundwater contamination to help restore the beneficial use of the aquifer and protect public health and the environment. The North Hollywood West Treatment Facility is under construction and is expected to be completed by mid-2021. The North Hollywood Central and Tujunga Well Field Response Action Treatment Facilities are currently being designed and construction is scheduled to be completed by mid-2023. In conjunction with these efforts, the EPA is requiring a number of the potentially responsible parties for the contamination to design and construct a second interim remedy to replace the existing North Hollywood Operable Unit (which is currently shut down). The new facility will treat water from wells in the central portion of the North Hollywood East wellfield and is expected to be operational by the end of 2021. Additionally, the program to treat water from the eastern area of the North Hollywood East wellfield is expected to be operational by no later than May 2021. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Groundwater System Challenges and Remediation Efforts” for additional information on groundwater cleanup and remediation.

Fluoridation. The Department operates seven fluoridation facilities to treat the City’s water supplies to meet State regulation requiring water fluoridation of public water supplies issued by the California Department of Public Health. In 2007, Metropolitan began water fluoridation at its five water treatment plants that serve all of Southern California, including water supplied to the Department.

WATER SUPPLY

Sources of Water Supply

The Department receives its water supply from four sources:

- The Los Angeles Aqueduct (Owens Valley and Mono Basin);
- Purchases from Metropolitan of water delivered through the Colorado River Aqueduct and the California Aqueduct (the State Water Project);
- Pumping groundwater in the San Fernando Basin, the Sylmar Basin, the Eagle Rock Basin, the West Coast Basin and the Central Basin; and
- Recycled water.

The amount of water delivered to the City from each of these sources in Fiscal Years 2014–15 through 2018–19 is set forth in the following table. See also “—Water Conservation Actions Taken in Response to Recent Drought” and “—Meeting Future Customer Needs” below.

WATER SUPPLY AND DEMAND (In Acre-Feet)

Supply Source	Fiscal year Ended June 30				
	2015	2016	2017	2018	2019
Metropolitan	362,654	339,975	216,299	182,706	137,775
Los Angeles Aqueduct	57,716	57,853	224,724	307,671	312,456
Local Groundwater	90,438	79,056	50,439	21,760	32,233
Recycled water ¹	10,421	9,913	8,032	9,778	7,512
Total Supply ²	521,229	486,797	499,494	521,916	489,976
Total Demand ²	521,194	490,306	490,144	522,116	488,266

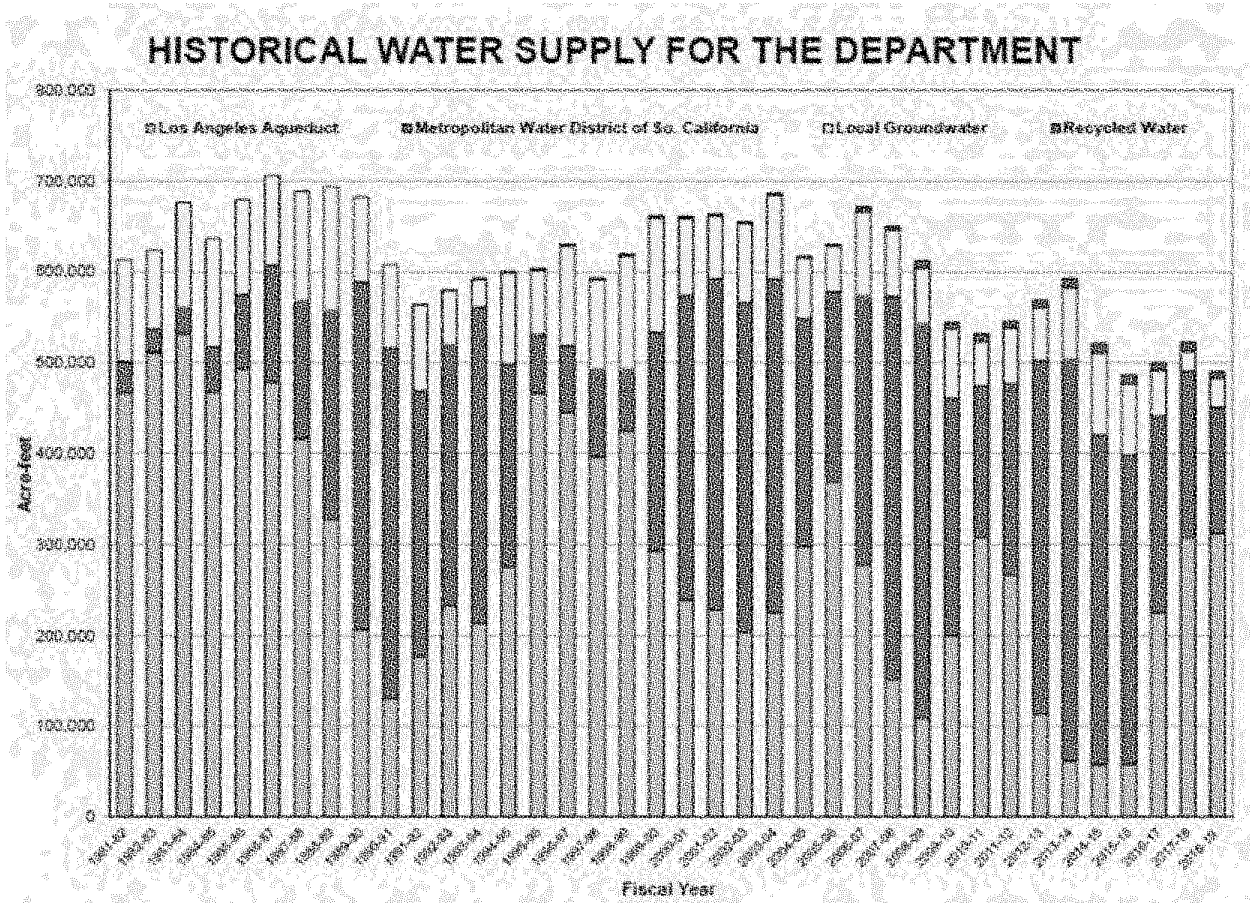
Source: Department of Water and Power of the City of Los Angeles.

¹ The Department includes recycled water in its calculation of total supply and total demand.

² When Water System supply exceeds demand, water is placed into storage and when Water System supply does not meet Water System demand, water is withdrawn from storage. The difference between total supply and total demand is primarily water stored/withdrawn from Water System storage.

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The following graph illustrates the historical water supply for the Department since Fiscal Year 1981-82.



Source: Los Angeles Department of Water and Power.

The majority of the Department's water supply (approximately 87%) originates from surface runoff (snowmelt). This supply is subject to substantial annual variability, which influences the amount of water delivered by the Los Angeles Aqueduct and, consequently, the amount of water purchased by the Department from Metropolitan. In years where the snowpack is abundant, water delivered from the Los Angeles Aqueduct (from the Owens Valley and the Mono Basin) tends to increase. Consequently, in those years, the Department typically purchases less water from Metropolitan. Department groundwater supplies are produced in accordance with regulated entitlements designed to protect aquifers from adverse impacts. The practice of "safe yield" pumping has been practiced by the Department for decades to avoid groundwater overdraft and to protect basin water quality. Recycled water is an established resource that is being developed by the Department to meet a substantial portion of future increases of water usage within the City.

As described above, between Fiscal Years 2014-15 and 2018-19, deliveries of water from the Los Angeles Aqueduct and the amount of water purchased from Metropolitan varied (sometimes substantially) from one year to the next. When the Department's reliance on water purchased from Metropolitan increases, its expenses with respect to purchased water increases substantially. However, the full cost of water purchased from Metropolitan is passed on to the customers of the Department.

Between late 2011 and late 2016, the State suffered one of the worst droughts in recorded State history. In response to the drought, Governor Brown, the State Water Resources Control Board and cities and water agencies throughout the State (including the City and the Department) mandated or adopted various emergency water conservation measures; many of which have been made permanent. See “—Water Conservation Actions Taken in Response to Recent Drought” below for a description of the effect of the drought on the Department’s water supplies and revenues. See also, “CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and Sufficiency of Water Supply.”

Los Angeles Aqueduct –Owens Valley and Mono Basin

Los Angeles Aqueduct Water Supply. From 1970 to 1988, the Department received approximately 76% of the City’s total water supply from the Los Angeles Aqueduct. A significant portion of this supply was curtailed in 1989 when a court injunction severely limited the Department’s water exports from the Mono Basin due to concerns over the basin’s ecosystem, scenic views, air quality, and other public trust values. Additionally, in 1991, the Department reduced water exports from Owens Valley to comply with the Owens Valley Groundwater Agreement (as further described under “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments—Owens Valley—Owens Valley Groundwater Management”). More recently, additional demands for Los Angeles Aqueduct water have been made by the Owens Lake Dust Mitigation Program (as further described under “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments—Owens Valley—Owens Lake Dust Control”) and the Lower Owens River Project (as further described under “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments—Owens Valley—Other Environmental Efforts in the Owens Valley”). Since 1989, Los Angeles Aqueduct water deliveries to the City have varied from as little as 57,716 acre-feet in Fiscal Year 2014–15 to as much as 467,000 acre-feet of water in Fiscal Year 1995–96. Average water deliveries from the Los Angeles Aqueduct were approximately 192,084 acre-feet per Fiscal Year between Fiscal Years 2014–15 and 2018–19 (approximately 38.1% of the Department’s annual water supply). However, during Fiscal Years 2013–14 through 2015–16 (the worst years of the recent drought), average water deliveries from the Los Angeles Aqueduct were only approximately 58,864 acre-feet per year (approximately 10.6% of the Department’s annual water supply). Based on computer modeling completed during 2010, the Department projects that the potential impacts of climate change could reduce the cumulative annual deliveries from the Los Angeles Aqueduct by up to four percent from 2010 through 2035.

Water Rights. The Department possesses rights to surface water primarily from eastern Sierra Nevada watersheds including 174 pre-1914 and 17 post-1914 water rights along various streams, creeks and rivers in the Mono Basin, Long Valley and Owens Valley. Pre-1914 water rights are not under the jurisdiction of the State Water Resources Control Board and offer the rights holder certain advantages such as being able to change the place of use, purpose of use, or point of diversion without seeking approval of the State Water Resources Control Board. The City has the right to export surface water from the eastern Sierra Nevada watersheds and to divert 50,000 miner’s inches (1,250 cubic feet per second (“cfs”)) from the Owens River at a location approximately 15 miles north of the town of Independence, California to the Los Angeles Aqueduct for transport to the City. Supplemental statements pertaining to diversion and use of water are filed with the State Water Resources Control Board every three years. The State Water Resources Control Board was established by the State Legislature to administer the State’s water quality and water rights programs and together with nine Regional Water Quality Control Boards throughout the State, enforces pollution control standards to protect the State’s rivers, lakes, groundwater basins and shoreline.

The Department developed groundwater resources in the Owens Valley based primarily on the ownership of approximately 330,000 acres of land and associated water rights. Groundwater supply in the Owens Valley is managed according to procedures stipulated to in a 1991 agreement between Inyo County and the Department.

The Department is subject to several environmental mitigation commitments in the Owens Valley and Mono Basin that have a material impact on the finances and operations of the Water System. For information about these commitments, see “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments.”

The Metropolitan Water District of Southern California

General. The Department relies on water purchased from Metropolitan to meet its current water supply requirements not otherwise met from the Los Angeles Aqueduct, local groundwater and recycled water. During Fiscal Years 2014-15 through 2018-19, water deliveries from Metropolitan varied between a low of approximately 137,775 acre-feet in Fiscal Year 2018-19 and a high of approximately 362,654 acre-feet in Fiscal Year 2014-15. For the five Fiscal Years ended June 30, 2019, water deliveries from Metropolitan averaged approximately 247,882 acre-feet per year, which constituted approximately 49.2% of the Department’s total water supply. See “—Water Conservation Actions Taken in Response to Recent Drought” below.

As a member of Metropolitan, the Department purchases water from Metropolitan pursuant to water supply purchase orders entered into with Metropolitan for specific periods. In January 2015, the Department and Metropolitan executed a new Purchase Order for Imported Water Supply Agreement (the “Purchase Order Agreement”), which requires the Department to purchase at least 2,033,130 acre-feet of water over a 10-year period commencing on January 1, 2015 and expiring on December 31, 2024. Some of the key terms of the Purchase Order Agreement include the following: (a) the Department’s annual maximum Tier 1 allocation of water from Metropolitan is 335,663 acre-feet per year, or 3,356,630 acre-feet for the 10-year term of the Purchase Order Agreement; (b) any obligation to pay Metropolitan’s Tier 2 supply rate will only be assessed if the Department exceeds its total 10-year Tier 1 allocation; (c) opportunity to reset the base period demand using a five-year rolling average; and (d) an appeals process was established to address unmet purchase commitments. This will allow each acre-foot of unmet Purchase Order commitment to be reduced by the amount of production from the Department’s local resources that commence operations on or after January 1, 2014, which will allow the Department not to be charged if production of these supplies negatively impacts its minimum Purchase Order commitment.

The rates which the Department pays for water purchased from Metropolitan are based on, among other things, Metropolitan’s costs of acquiring, treating and transporting water for all of its member agencies, as determined by Metropolitan’s board of directors from time to time.

Metropolitan. Metropolitan is a metropolitan water district created in 1928 by vote of the electorate of the City and several other Southern California cities. The City is a member of Metropolitan’s board of directors. Metropolitan is a major supplier of wholesale water to its 26-member public agencies, including the City. Metropolitan indicates that it imports water from two principal sources: northern California (mainly from the San Francisco Bay/Sacramento-San Joaquin River Delta (“Bay-Delta”)), via the California Aqueduct, and the Colorado River via the Colorado River Aqueduct. See “CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and Sufficiency of Water Supply—Reliance on Water Purchased from Metropolitan.”

From time to time, Metropolitan provides information about itself and its operations to the public. Certain information about Metropolitan can be found on the MSRB’s website through the EMMA System,

including Metropolitan's Remarketing Statement, dated May 14, 2020, as supplemented, relating to its Subordinate Water Revenue Bonds, 2017 Series C and Subordinate Water Revenue Refunding Bonds, 2017 Series D and 2017 Series E (the "Metropolitan Remarketing Statement"). Metropolitan has indicated that it has entered into certain continuing disclosure undertakings pursuant to which it is required to file certain annual financial and operating information and notices of certain enumerated events with the MSRB through the EMMA System. Information provided by Metropolitan about itself and its operations, including the Metropolitan Remarketing Statement and any annual financial and operating information and notices of certain enumerated events regarding Metropolitan, and any other information on the MSRB's website is not incorporated by reference into this Official Statement. The Department makes no representation as to the accuracy or completeness of any such information. METROPOLITAN HAS NOT ENTERED INTO ANY CONTRACTUAL COMMITMENT WITH THE DEPARTMENT OR THE OWNERS OF THE SERIES A BONDS TO PROVIDE INFORMATION WITH RESPECT TO METROPOLITAN TO THE DEPARTMENT OR THE OWNERS OF THE SERIES A BONDS.

Local Groundwater

Groundwater Production and Rights. For the five Fiscal Years ended June 30, 2019, on average, local groundwater supplied approximately 54,782 acre-feet per year, which constituted approximately 10.9% of the Department's total water supply per year. The unprecedented drought that occurred between Fiscal Years 2011-12 and 2015-16 resulted in historic low deliveries of water from the Los Angeles Aqueduct and allocations of State Water Project supplies by the Department of Water Resources. To address this situation, the Department increased groundwater pumping in Fiscal Years 2013-14, 2014-15 and 2015-16 to 79,403 acre-feet, 90,438 acre-feet and 79,056 acre-feet, respectively. In the two Fiscal Years prior to Fiscal Year 2013-14, the Department extracted, on average, 59,936 acre-feet per Fiscal Year. However, during Fiscal Years 2016-17, 2017-18 and 2018-19, in response to the abundance of snowpack received during the winter of 2017 and the increased availability of water from the Los Angeles Aqueduct, the Department only pumped 50,439 acre-feet, 21,760 acre-feet and 32,233 acre-feet, respectively, of water from its groundwater basins. Additionally, due to the significant increase of water supplied by the Los Angeles Aqueduct, the Department used this excess water to partially refill its groundwater basins.

The following table sets forth the Department's adjudicated rights to water supply from the San Fernando Basin, the Central Basin, the Sylmar Basin, the West Coast Basin and the Eagle Rock Basin.

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LOCAL GROUNDWATER
ADJUDICATED RIGHTS TO
WATER SUPPLY

Groundwater Basin	Acre-feet per year
San Fernando ¹	87,000
Central	17,236
Sylmar	3,570
West Coast	1,503
Eagle Rock	500

Source: Department of Water and Power of the City of Los Angeles.

¹ The City's water rights for the San Fernando Basin vary annually because these water rights are based on the following components: (i) Native Water (consisting of a fixed amount of 43,660 acre-feet of water) and (ii) Import Return Water (consisting of 20.8% of all water delivered by the Department to customers in the Basin area, including recycled water, which historically averages approximately 43,000 acre-feet of water but slightly declined in recent years). For the 2018-19 operational year (which began in April 2018), the Department extracted significantly less than the City's annual water rights due to the increased availability of water from the Los Angeles Aqueduct.

Stored Groundwater. To supplement its annual water rights, as of October 1, 2017 (the date of the most recent published report regarding storage), the Department had accumulated 554,500 acre-feet of stored water credits in the San Fernando Basin (62,773 acre-feet in available credit and 491,727 acre-feet in reserved credit) and 9,014 acre-feet in the Sylmar Basin. As of July 1, 2019 (the most recent data available), the Department had accumulated 19,496 acre-feet of stored water in the Central Basin.

Groundwater Facilities. The Department owns and operates numerous groundwater extraction, treatment, remediation, distribution and recharge facilities to manage its groundwater supply. The Department also benefits from groundwater recharge facilities owned and operated by the Los Angeles County Department of Public Works. These facilities allow for the capture and diversion of stormwater runoff and subsequent recharge of the groundwater basin. The major groundwater facilities and their maximum capacities are listed in the following table.

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MAJOR GROUNDWATER FACILITIES AND THEIR MAXIMUM CAPACITIES¹

	Maximum Capacity
San Fernando Basin:	
Wells:	
Rinaldi-Toluca Well Field	75,400 acre-feet per year
Tujunga Well Field	74,800 acre-feet per year
North Hollywood Well Field	37,500 acre-feet per year
River Supply Conduit Wells (Erwin, Whitnall, Verdugo Wells)	9,800 acre-feet per year
Aeration Wells	0 acre-feet per year
Pollock Well Field	4,600 acre-feet per year
Recharge Facilities:	
Branford ²	2,100 acre-feet per year ³
Hansen ²	35,200 acre-feet per year ³
Lopez ²	3,900 acre-feet per year ³
Tujunga Spreading Grounds	42,800 acre-feet per year ³
Pacoima ²	24,200 acre-feet per year ³
Distribution Facilities:	
Tujunga Pumping Station Complex	100.0 cfs
North Hollywood Pumping Station Complex ⁴	300.0 cfs
Treatment/Remediation Facilities:	
North Hollywood Operable Unit ⁵	2.3 cfs
Pollock Wells Treatment Plant	6.9 cfs
Tujunga Wellfield Temporary Groundwater Treatment Plant – Pilot Study	14.8 cfs
Central Basin:	
99th Street Well Field	7,000 acre-feet per year
Manhattan Well Field	5,000 acre-feet per year
Sylmar Basin:	
Mission Well Field	3,400 acre-feet per year

Source: Department of Water and Power of the City of Los Angeles.

¹ The well fields capacities are estimated based on the wells capacities measured in January 2019, assuming a continuous operation throughout the year. The yearly capacity numbers are rounded. The capacities may change depending upon individual well performance. The actual operating capacities of the wells are less and fluctuate based primarily on the groundwater basin conditions and the quantity of groundwater that can be pumped from a groundwater basin without resulting in long term adverse impacts to the basin.

² Owned and operated by the County of Los Angeles.

³ Maximum recharge volume, per water year (October 1–September 30).

⁴ Based on a maximum distribution capacity of 145 cfs to Zone 1 (River Supply Conduit), 120 cfs to Zone 2 (Toyon Tanks), and 35 cfs to Zone 3 (830 System). Groundwater distribution is limited by capacity to disinfect maximum flowrate of approximately 150 cfs.

⁵ The North Hollywood Operable Unit is currently shut down. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Groundwater System Challenges and Remediation Efforts—North Hollywood Operable Unit.”

The management of groundwater supply subjects the Department to certain regulations and remediation efforts. For more information about such efforts, see “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Groundwater System Challenges and Remediation Efforts.”

Recycled Water

By 1960, the City recognized the potential for water reuse and invested in infrastructure that processed water to tertiary quality, a high treatment standard for wastewater which meets federal and State standards for non-potable water uses. The use of this process resulted in the construction of wastewater treatment plants that produce tertiary quality water. These system enhancements paved the way for the City to expand recycled water projects to supplement local and imported water supplies.

The Department's water recycling program is dependent on the City's wastewater treatment infrastructure. Wastewater in the City is collected and transported through approximately 6,700 miles of major interceptors and mainline sewers, more than 11,000 miles of house-sewer connections, 44 pumping plants, and four treatment plants. The Bureau of Sanitation of the City's Department of Public Works ("LASAN") operates the wastewater program in cooperation with the Department's operation of the recycled water projects. The Department uses a portion of the treated effluent from the wastewater plants to meet recycled water demands.

As described in the Department's 2015 Urban Water Management Plan (the "2015 UWMP") (see "—Meeting Future Customer Needs" below for additional information on the 2015 UWMP), the Department's recycled water program is a critical element of the City's water supply portfolio and is an important strategic investment. The 2015 UWMP forecasts that by 2040, recycled water deliveries will total approximately 75,400 acre-feet per year, including up to 30,000 acre-feet per year of groundwater replenishment with recycled water.

The Department continues to make progress in increasing water recycling in the City. For Fiscal Year 2018-19, 7,512 acre-feet (approximately 2,448 million gallons) of recycled water was delivered for irrigation, industrial and seawater barrier use to 177 sites. In addition to direct customer use of recycled water, during Fiscal Year 2018-19, 26,540 acre-feet (approximately 8,648 million gallons) of recycled water was provided for recreational and environmental uses, including Lake Balboa, the Japanese Gardens at the Donald C. Tillman Water Recycling Plant, and the Wildlife Lake.

In the San Fernando Basin, the Department expects to expand irrigation and industrial use of recycled water, along with implementing groundwater replenishment with recycled water for recharging the San Fernando Basin. The initial phase of the replenishment project is in the permitting process and is anticipated to begin spreading recycled water by the end of 2020.

The Department is undertaking a new initiative to recycle 100% of the wastewater from the local Hyperion Water Reclamation Plant ("HWRP"), operated by LASAN. The recycled water would serve approximately one-third of the City's demands by 2035. This new water source has the potential to increase local water supply by approximately 190,000 acre-feet per year (approximately 61,912 million gallons per year) by replenishing the Central, West Coast and San Fernando Groundwater Basins, as well as serving as raw water augmentation to the Filtration Plant, with advanced treated recycled water from HWRP. The Department has begun pre-planning studies and other preliminary work in connection with the effort. The total preliminary capital cost for this program, known as "Operation NEXT," is currently estimated at approximately \$8 billion. This cost will be updated when more detailed program elements are available. The Department plans to pursue the most cost effective sources of financing for construction of Operation NEXT, including State/Federal grants/loans, additional Parity Obligations, securitized funds, and Metropolitan's local resource subsidy, as well as contributions from potential partnering agencies.

Water Conservation Actions Taken in Response to Recent Drought

Between late 2011 and late 2016, the State suffered the worst drought in recorded history. In response to the drought, Governor Brown, the State Water Resources Control Board and cities and water agencies throughout the State (including the City and the Department) mandated or adopted various emergency water conservation measures, some of which are described below. In the event of any future droughts, similar measures may be instituted by the State and cities and water agencies throughout the State (including the City and the Department).

Following the historically dry winters in 2011–12 and 2012–13, and with the State facing water supply shortfalls in the driest year in recorded state history, on January 17, 2014 a statewide drought State of Emergency was declared by Governor Brown; which State of Emergency remained in effect until April 7, 2017. Additionally, Governor Brown issued several executive orders, including orders that mandated reduced water use statewide, limited certain water use activities and called for long-term improvements to drought preparation across the State. To address the Governor's executive orders, the State Water Resources Control Board adopted emergency regulations to address certain provisions of the executive orders, including a mandatory 25% statewide reduction of water use (between June 2015 and April 2017).

In October 2014, Mayor Eric Garcetti issued an Executive Directive (the "Mayor's Executive Directive") that ordered all City departments to reduce potable water use and take immediate action to achieve the following goals: (1) a 20% reduction in per capita water use by 2017 resulting in a per capita use of 106 gallons of water per day (which the City met as of January 1, 2017); (2) a 50% reduction in the Department's purchase of imported potable water by 2024 (See "CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and Sufficiency of Water Supply—Reliance on Water Purchased from Metropolitan"); and (3) the creation of an integrated water strategy that increases local water supplies and improves water security in the context of climate change and seismic vulnerability. In addition, Mayor Garcetti implemented the following voluntary actions for City residents: (1) reduction of outdoor watering from three days per week to two days per week; (2) replacement of turf lawns with native and climate-appropriate landscaping; (3) replacement of high water use plumbing fixtures and appliances with low-flow fixtures and appliances; and (4) ensuring that swimming pools have pool covers to reduce water evaporation.

As a result of the State of Emergency, the Governor's executive orders and the regulations of the State Water Resources Control Board, the Department prohibited certain uses of water and restricted outdoor watering, along with adopting other measures to increase and sustain the level of conservation participation. Additionally, the Board approved certain amendments to the City's Emergency Water Conservation Plan Ordinance, that were subsequently approved by City Council and the Mayor, which amendments, among other things, increased the existing surcharges for ordinance violations and allowed penalties to be imposed upon users of unreasonable amounts of water. The intent of the amendments was to improve the City's ability to respond to the drought conditions and to enhance the Department's enforcement authority to address wasteful and unreasonable water use among the City's high water users. These measures are still in effect.

On May 31, 2018, Governor Brown signed two long-term water-use efficiency bills: Assembly Bill 1668 and Senate Bill 606. These bills are designed to help the State better prepare for future droughts and climate change. The bills require, among other things, that by January 1, 2025, indoor residential use of water will be reduced to 55 gallons per capita per day, 52.5 gallons per capita per day from 2025 to 2030, and 50 gallons per capita per day beginning on January 1, 2030.

As a result of the various conservation actions described above, Water System customers responded by reducing their water use. Between Fiscal Years 2011–12 and 2016–17, sales of water to Department

customers decreased approximately 13.7%. Reduced water usage by the Department's customers results in reduced Water System revenues; however, such reduction in revenues may be partially offset by a reduction in operating expenses as a result of less water having to be purchased from Metropolitan. Additionally, the existing water rate structure contains several elements available to the Department that help assure financial stability in the event of decreasing sales of water. These include (1) the price differentials between the rates for the four tiers under the Water Rate Ordinance; (2) the Base Rate Revenue Target Adjustment factor (which replaced the water revenue adjustment (the "Water Revenue Adjustment") factor under the Previous Water Rate Ordinance), first activated by the Board in Fiscal Year 2015-16, provides for the recovery of a specified amount of base rate revenue (essentially consistent with budgeted base rate revenue); and (3) annual and/or semi-annual pass-through charges which adjust for under and over collections due to spending levels and volumes. The Base Rate Revenue Target Adjustment factor is calculated once each year and takes effect on January 1. Between January 1, 2019 and December 31, 2019 Department customers were billed at a rate of \$0.806, \$0.802 and \$0.326 per one hundred cubic feet of metered water usage for Single-Family Residential, Multi-Family Residential, and Commercial, Governmental and Industrial, respectively, for a total revenue collection during 2019 of approximately \$90.8 million.

See "WATER RATES." See also "—Sources of Water Supply" above and "CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and Sufficiency of Water Supply" below.

Meeting Future Customer Needs

The Department believes that proper management of its water resources, expanded water recycling and conservation programs and development of other local resources will provide adequate water supplies to meet the needs of the City for the foreseeable future.

The California's Urban Water Management Planning Act (the "Water Planning Act") requires California water suppliers, such as the Department, to prepare and adopt an updated urban water management plan ("UWMP") every five years to support their long-term resource planning and to ensure adequate water supplies are available to meet existing and future water demands. The key reporting requirements in the UWMP include, existing and planned sources of water, water demand forecasting, conservation efforts to reduce water demand, activities to develop alternative sources of water, assessment of reliability and vulnerability of water supply, water shortage contingency analysis, and voluntary reporting on climate change impacts and energy intensity. On June 7, 2016, the Board adopted the Department's most recent UWMP, the 2015 UWMP, which was subsequently submitted to and certified by the Department of Water Resources. The 2015 UWMP (which incorporated the Mayor's 2015 Sustainable City pLAn (discussed below)) includes initiatives for additional local water supply development, increased water conservation and recycling, as well as cleanup of contaminated groundwater and enhancing stormwater capture. The Department has begun work on its 2020 UWMP, which will focus on the new targets and strategies set forth in the Mayor's 2019 "Green New Deal" (discussed below). The 2020 update will also incorporate requirements from Assembly Bill 1668 and Senate Bill 606 that establish a new foundation for long-term improvements in water use efficiency. See "CERTAIN INVESTMENT CONSIDERATIONS—California State Water Legislation."

Additionally, in October 2012, the Board adopted certain guiding principles for accelerated development and implementation of a local water supply program and directed the Department staff to analyze the feasibility, cost and rate implications of accelerating local supply goals and associated projects as an alternative to purchasing water from Metropolitan. The accelerated goals are consistent with the Mayor's Executive Directive that was issued during the recent Statewide drought. These studies are

currently ongoing, and, once completed, will be presented to the Board for its consideration and are expected to become the foundation for the implementation of the Mayor's Executive Directive.

In April 2015, the City released its "Sustainable City pLAN" (the "2015 Sustainability Plan"), which established short-term and long-term targets for the City over the next 20 years in fourteen categories to strengthen and promote sustainability of the environment, the economy and equity in the City. Included in the 2015 Sustainability Plan was a multi-faceted approach to developing a locally sustainable water supply, calling for short-term, mid-term and long-term goals of reducing the City's reliance on imported water, and reducing per capita water use through conservation. For example, the 2015 Sustainability Plan called for the Department to reduce per capita water use by 25% by 2035; reduce purchases of imported water by 50% by 2025; and that by 2035 approximately 50% of the Department's water supply should come from local sources. Certain aspects of the 2015 Sustainability Plan were incorporated into the 2015 UWMP.

In April 2019, Mayor Garcetti released an update to the 2015 Sustainability Plan, entitled the "Green New Deal," and on February 10, 2020, Mayor Garcetti released his Executive Directive No. 25 implementing the Green New Deal. The Green New Deal includes, among other things, water related initiatives to accelerate the original goals set forth in the 2015 Sustainability Plan. The accelerated goals include: by 2035, 70% of the Department's water supply should come from local sources; recycle 100% of all wastewater by 2035; build 10 stormwater capture projects by 2025, 100 stormwater capture projects by 2035, and 200 stormwater capture projects by 2050; increase stormwater capture capacity to 75,000 acre-feet by 2021, and 150,000 acre-feet by 2035; maintain or reduce current per capita uses of water through 2050; and installing or refurbishing 200 hydration stations by 2035. Additionally, as part of this Directive No. 25, the City expects the Department to provide equitable access to clean energy programs, build zero carbon microgrids in City owned infrastructure, deploy smart meters City-wide and institute other similar initiatives. The Department is studying how to implement this directive and the effect it will have on the finances and operations of the Water System.

Projected Supply and Demand. Included in the 2015 UWMP is the Department's projections for future water supplies and demand. The table below shows the Department's projected water supply and demand under three defined hydrologic scenarios: (i) average weather conditions (consisting of 50-year average hydrology from Fiscal Year 1961-62 to Fiscal Year 2010-11), (ii) a single dry year (such as a repeat of the Fiscal Year 2014-15 drought), and (iii) multiple dry years (such as a repeat of the drought that occurred between Fiscal Year 2012-13 and Fiscal Year 2014-15). According to the 2015 UWMP, with its current water supplies, planned future water conservation and planned future water supplies, the Department believes that it has water supplies available to meet all demands under all three hydrologic scenarios through the 25-year period covered by the 2015 UWMP.

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THE DEPARTMENT'S SUPPLY AND DEMAND FORECAST¹

Demand and Supply Projections	Average Weather Conditions (Fiscal Years 1962 to 2011)					Single Dry Year (Fiscal Year 2015)					Driest Three Consecutive Years (Fiscal Years 2013 to 2015)				
	2020	2025	2030	2035	2040	2020	2025	2030	2035	2040	2020	2025	2030	2035	2040
Total Water Demand	612	645	653	662	675	642	677	686	695	710	642	677	686	695	710
<u>Existing/ Planned Supplies</u>															
Conservation	126	111	112	109	108	157	144	145	144	144	157	144	145	144	144
Los Angeles Aqueduct	276	293	291	289	286	32	52	51	51	51	34	53	53	52	52
Groundwater (net)	113	111	107	115	114	113	111	107	115	114	113	111	107	115	114
Recycled Water															
- Irrigation/ Industrial Use	20	29	39	42	45	20	29	39	42	45	20	29	39	42	45
- Groundwater Replenishment	0	30	30	30	30	0	30	30	30	30	0	30	30	30	30
Stormwater Capture															
- Stormwater Reuse	.4	.8	1	2	2	.1	.2	.3	.3	.4	.1	.2	.3	.3	.4
- Stormwater Recharge	2	4	8	15	15	2	4	8	15	15	2	4	8	15	15
Subtotal	536	579	587	601	601	323	369	380	397	399	325	371	382	398	400
<u>Metropolitan Water Purchased</u>															
With Existing/Planned Supplies	75	66	65	61	75	319	307	305	298	311	318	306	304	297	309
Total Supplies	612	645	653	662	676	642	677	686	695	710	642	677	686	695	710

¹ Units are in thousand acre-feet per year. Amounts may not total due to rounding.

Source: Department of Water and Power of the City of Los Angeles "2015 Urban Water Management Plan for the Los Angeles Department of Water and Power."

Water Conservation Programs. Following the severe drought of the late 1980s and early 1990s, the Department developed a water conservation program. Water conservation is an integral part of water resources management efforts for the Department, and is a key element of maintaining a sustainable supply of water for the City.

Noteworthy accomplishments in conservation include the Department's residential ultra-low-flush ("ULF") toilet replacement programs that promoted the replacement of toilets using as much as seven gallons of water per flush with new toilets using 1.6 gallons or less per flush. Implementation of the program, which was completed in 2006, resulted in the replacement of more than approximately 1.4 million toilets. Non-water saving toilets continue to be replaced due to the City's "Retrofit on Resale" ordinance, which requires the installation of ULF toilets and low-flow showerheads prior to resale of residential properties in the City. Recently, newer high efficiency toilets using only 1.1 gallons per flush have been introduced to the market, and the Department provides incentives to customers to replace older toilets with the new premium high efficiency toilets. In addition to toilets, the Department has provided more than 1.85 million low-flow showerheads to residents in the Department's service area, and offers incentives for the purchase and installation of high efficiency clothes washing machines.

The Department also expanded its focus to target outdoor water savings. To this end, the Department implemented a residential and commercial turf replacement program in June 2009 and August 2009, respectively. These programs provide rebates to customers who replace turf with "California Friendly" or native plants. Through December 2019, these programs have resulted in a combined estimated water savings of approximately 6,990 acre-feet per Fiscal Year.

Conservation programs also include a concerted effort in the non-residential sector. The Department's commercial water conservation rebate program offers financial incentives to the Department's business customers for a wide range of water saving measures. Rebates from the Department are available for the reduction of indoor, process and landscape water use and rebates and incentives for a variety of water conserving measures and projects. In addition, the Department funds improvement of irrigation efficiency at many City parks, including the installation of California Friendly landscaping, "smart" irrigation controllers, efficient rotors and sprinklers, and other upgraded infrastructure.

The Department's water conservation programs also include comprehensive efforts in awareness and education. The Department is an original signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California. The Memorandum of Understanding has two primary purposes: (i) to expedite implementation of reasonable water conservation measures in urban areas and (ii) to establish assumptions for use in calculating estimates of reliable future water conservation savings resulting from proven and reasonable conservation measures. The Department also was an active participant in the California Urban Water Conservation Council ("CUWCC"), which is the organization formed as a result of the Memorandum of Understanding. With increased pressure from a changing climate, more severe droughts and water uncertainty, and new mandatory regulations from the State, including new framework to "Make Water Conservation a California Way of Life," the CUWCC membership voted to allow the organization to be replaced with a new one: the "California Water Efficiency Partnership," of which the Department is an active member. The Department has acquired local, state and federal grant funds which the Department uses to leverage its water conservation investments and achieve higher levels of water conservation savings.

In September 2017, the Department conducted a Water Conservation Potential Study ("WCPS") to determine the Department's remaining water conservation potential. The Department is using the WCPS to assist it in reaching the long-term water conservation goals established in the 2015 UWMP and the New Green Deal, and to assist it in prioritizing future water conservation investments and identifying the uses of water by its customers. The Department projects an additional 140,000 acre-feet per year of conservation by 2040. The WCPS identified significant savings potential by continuing to invest in rebate programs for efficient devices, extending education and outreach programs, and updating requirements through codes and ordinances.

Reduced water usage resulting from the Department's conservation program will reduce Water System revenues; however, the Department's existing water rate structure contains several elements available to the Department that help assure financial stability in the event of decreasing sales of water. See "WATER RATES."

Enhanced Stormwater Capture. The 2015 UWMP also calls for stormwater capture to augment local water supplies. The Department funds and implements new stormwater infrastructure to replenish its local groundwater reserves in the various regional groundwater basins and incentivizes residential stormwater reuse through rain barrel and cistern rebates. According to the 2015 UWMP, by 2040, under average weather conditions, stormwater capture is projected to increase groundwater pumping in the San Fernando Basin by 15,000 acre-feet per year, and capture and reuse solutions such as rain barrels and cisterns will provide 2,000 acre-feet per year of additional water conservation, for a total of 17,000 acre-feet per year of water. As of December 2019, 74,177 acre-feet of stormwater capture capacity exists within the City, which is on-track to meet the goals of the Green New Deal. The Department's Tujunga Spreading Grounds Enhancement Project was recently put in service, increasing annual capture capacity by 8,000 acre-feet, which allows for expanded groundwater pumping. In addition, the Department is implementing small-scale projects, such as the Stormwater Capture Parks Program, that will increase annual capture capacity by 2,900 acre-feet. Stormwater recharge increases long-term groundwater sustainability during periods of drought. Aside from increased water supply, stormwater capture projects receive

community-wide support and provide positive externalities, such as improvements in stormwater quality, local flooding mitigation, recreational opportunities, and economic growth

Water Transfers. The Department plans to acquire water to replace a portion of the Los Angeles Aqueduct supply reallocated for environmental uses in the Owens Valley and Mono Basin. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments—Owens Valley—Owens Lake Dust Control.” The Department is currently reviewing its options for the acquisition of approximately 40,000 acre-feet per year of water from the water market. The City entered into an agreement with the Department of Water Resources, the Antelope Valley-East Kern Water Agency and Metropolitan that permits the Department to construct, operate and maintain a water service turnout known as the Neenach Pump Station, in order to deliver water from the California Aqueduct to the Los Angeles Aqueduct where the two aqueducts cross in the Antelope Valley. In 2019, the Department finished constructing the turnout, which will facilitate water transfers from water rights holders in the Central and Sacramento Valleys to the Los Angeles Aqueduct. Conditions precedent to such delivery of water include obtaining agreements for the transfer of non-State Water Project water, accessing available excess capacity in the California Aqueduct and compliance with State Water Project water quality requirements.

Seawater Desalination. The Department has evaluated seawater desalination as a potential source of water. Seawater desalination is the process of removing salts and other impurities from ocean water. However, due to its high cost and environmental concerns, the Department has determined not to pursue seawater desalination at this time.

WATER SYSTEM INFRASTRUCTURE PROGRAM

Asset Management

The Department has implemented an asset management program to address the long-term sustainability of its major facilities and infrastructure. The program involves refining operations and maintenance practices and procedures for each asset type, evaluating the condition, criticality and expected life of each asset, and developing a strategy for scheduling the rehabilitation and replacement of these assets. This information is used to determine staffing levels needed for appropriate operations and maintenance and to determine the long-term funding needed for rehabilitation and replacement.

In Fiscal Year 2005-06, the Department began evaluating its 84 pump stations through a condition assessment process. From these assessments, since 2012, over 123 pumps and motors have been replaced or refurbished. This assessment also was used to help establish appropriate maintenance staffing levels in the Pump Station Maintenance group. The most recent pump station assessments were conducted in 2017. In Fiscal Year 2009-10, the Department completed evaluations of its 331 active regulator and relief stations. Additionally, since 2003, the Department has been supporting a regulator station retrofit program to improve the operation and maintainability of the stations as well as reduce the required corrective maintenance. Over 175 regulator stations have been retrofitted since the beginning of the program. Since 2017, the Department has had a regulator station header replacement program and has completed 3 stations to date. Condition assessments of storage tanks was conducted in Fiscal Year 2016-2017. The Department also plans to evaluate all major infrastructure facilities, including, its chlorination, ammoniation and fluoridation facilities in the near future.

To assess the condition of the Department’s approximately 7,336 miles of pipelines, the Department’s Asset Management group is developing risk replacement models based on the likelihood and consequence of failure. The model for pipelines with diameters of 20 inches and smaller is currently being

used to assist the Department in the identification and prioritization of mainline replacement projects. A similar model for larger pipelines has been used to help prioritize new trunk line replacements.

The Department is continuing to further develop its asset management plan by identifying the life cycle costs of assets to improve rehabilitation and replacement forecasts, developing level of service definitions and associated key performance indicators to measure performance, and identifying the criticality of each asset. The Department has taken steps to formalize the asset management program and looks forward to improving the process, following the International Infrastructure Management Manual, which is in line with ISO 55000 (an international standard covering management of assets) to advance the program.

Pipeline Replacement Program

The Department has been working proactively to identify both transmission and distribution pipelines most in need of repair and replacement. The Water System's asset management program plays a vital role in the pipe replacement prioritization effort, which takes into consideration factors such as pipe leak history, age, material, pressure range, soil corrosivity, and other variables that may influence pipe failure. During Fiscal Years 2020-21 through 2024-25, the Department plans to invest approximately \$627.8 million in projects to rehabilitate or install additional and replacement trunk lines for infrastructure and water quality purposes.

As part of its mainline replacement program, the Department has replaced over 800,000 feet of distribution mainline in the past five years and plans to increase replacement footage to 315,000 feet per year by 2025. This increase to the amount of mainlines to be replaced is aimed at achieving a replacement cycle that is in line with the pipe network's expected life cycle.

The primary objective of the Water System's pipe replacement program is to enhance service reliability of the water distribution infrastructure. Pipe leak rate varies from year to year, and extreme seasonal weather variations can significantly influence the amount of leaks in the distribution system. Pressure fluctuation also is a driver for leaks, and the Department has increased emphasis on pressure management through the use of pressure monitors in various areas within the distribution system. Assisted by a focused pipe replacement program, the Department's water distribution system leak rate has remained stable with a 3-year (ended June 30, 2019) annual leak rate averaging 21 leaks per 100 miles of pipe. This rate is below the national average for water utilities of 25 leaks per 100 miles of pipe.

The Department is implementing additional infrastructure improvement programs to complement the distribution mainline replacement program. These programs include the large valve replacement program (for valves greater than 12-inches), regulator station rehabilitation/retrofit program, pump/motor rehabilitation/retrofit program, small meter replacement program, and an anode replacement program for the cathodic protection (against corrosion) of steel pipelines. Furthermore, pressure management and leak detection are increasingly being implemented to assist with optimization of the distribution system operations. Finally, earthquake resistant pipe is being installed in the most seismically vulnerable segments of the distribution system as part of building resiliency through pipe replacement.

Seismic Strengthening of Facilities

The Department has for many years been involved with designing facilities for seismic resistance and upgrading and improving older, seismically susceptible facilities.

The Department is currently re-evaluating several of its dams for seismic stability utilizing current knowledge in Southern California seismicity and state of art and practice dam engineering technologies.

The Department recently worked closely with the University of California at Davis and the State of California Dam Regulatory Agency, the Division of Safety of Dams to improve the investigation techniques for earth dams with high gravel contents; which techniques are becoming state-of-the-practice. The Department also has initiated the development of a dam risk assessment program with input from the United States Army Corp of Engineers and conducted its first potential failure mode analysis for one of the dams in the Owens Valley. The risk assessment of the Department dams will help in the prioritization of dam safety projects. Previously an initial screening review of 17 dams located south of the San Andreas Fault that was performed by an independent consultant and identified eight dams that needed additional evaluation. A detailed evaluation program is continuing for the eight dams which has shown some of the dams to be safe in their present condition and others in need of modification. Dams identified as needing modification are operating at a safe restricted water level until mitigations are completed. The Department recently completed a study which concluded that the Bouquet Reservoir Dams are safe to operate at normal reservoir levels, and as a result, the Department removed a long-term, self-imposed, restriction on the operating levels of these dams. The Department plans on revisiting the study and modification prioritization of these project as well as the dams located north of the San Andreas Fault in the Owens Valley based on risk assessment techniques. Additionally, the Department completed the development of dam inundation maps for dams with significant or high downstream hazards, and is updating the emergency action plans for these dams.

Additionally, the Department is implementing a Water Seismic Resilience and Sustainability Program (the “Seismic Resilience Program”). This was initiated in 2014 with the development of a Water System Seismic Resilience and Sustainability Program summary report. The Seismic Resilience Program gained momentum from Mayor Garcetti providing specific direction and priority in his Resilience by Design Report in December 2014. Recently, the Seismic Resilience Program was expanded with Mayor Garcetti’s release of the “Resilient Los Angeles” report. The Department has appointed a Chief Resilience Officer who works closely with the Mayor’s office and the other departments of the City. These resilience programs aim to improve the resilience of the entire Water System (supply, treatment, transmission, and distribution) against significant hazards and stressors, including, among others, earthquakes, floods, volcanoes, climate change, through planning, evaluation, and monitoring to identify and implement needed mitigation projects and improved emergency response and recovery capabilities. The Seismic Resilience Program includes planning and design activities for the Los Angeles Aqueduct where it crosses the San Andreas Fault which includes (a) the design of a seismic enhancement project to increase the opportunity to provide water through the Los Angeles Aqueduct in the event of an earthquake along the San Andreas Fault, and (b) evaluating options for developing an engineered solution for the largest movement expected on the fault. Additionally, the Los Angeles Aqueduct performance is being evaluated in the event of a magnitude 7.8 earthquake along the San Andreas Fault to assess potential damage and restoration timeframe. The Department is using this evaluation to develop an emergency response and restoration plan addressing specific vulnerabilities of the Los Angeles Aqueduct. The Department also has created a Seismic Resilient Water Supply Task Force (the “Seismic Task Force”), which is working with Metropolitan and the Department of Water Resources. The Seismic Task Force has begun looking at the Los Angeles Aqueduct, the California Aqueduct and the Colorado River Aqueduct as a regional system to determine best practices to provide water to the population as quickly as possible following a San Andreas fault event. In January 2019, the Department completed its performance based seismic design guideline. This design guideline is the first of its kind in the nation and sets forth an approach to implementing performance based seismic design for the Water System. Other aspects of the Seismic Resilience Program include addressing the risks of fire following an earthquake and developing plans for creating a seismic resilient pipe network. These will include assessing Water System vulnerability, post-earthquake hydraulic capabilities using an in-house program developed with Cornell University, and identifying performance criteria in support of community resilience. A Resilience Expert Panel has been formed to advise the Seismic Resilience Program and currently includes an earth scientist and water system lifeline expert.

The Department recently completed a pilot program to improve the distribution system by utilizing special seismically designed earthquake resistant ductile iron pipe (the “Earthquake Resistant Pipe”). The pilot program installed two miles of the Earthquake Resistant Pipe at five sites and was successful in identifying the feasibility of utilizing the pipe in the Department’s distribution system. A program for procuring and installing additional Earthquake Resistant Pipe is proceeding; currently an additional 12 miles of 6” to 12” diameter pipe is planned. The construction of two miles of 54” diameter Earthquake Resistant Pipe for the Foothill Trunk Line is underway at the location where it ruptured during the 1971 San Fernando Earthquake. Several miles of other water main lines and trunk lines are in the planning and design phases. The Earthquake Resistant Pipe was originally only available in Japan. The Department has been working with other manufactures to assist in the development of additional earthquake resistant pipe products to create competition and a self-sustaining resilient pipe market.

For a discussion of seismic activity and volcanic activity see “CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and Sufficiency of Water Supply—Seismic Activity” and “—Volcanic Activity.”

Projected Capital Improvements

Extensive planning and a comprehensive program of construction and reconstruction are continuously under review and evaluation in order to permit the Department to meet the use patterns of the Department’s customers and to promote system reliability.

The Department currently estimates that the capital improvement program for the Water System will cost approximately \$5.525 billion between Fiscal Years 2020-21 and 2024-25. Approximately 33% of this amount is estimated to be funded directly through rate collections from customers, with the balance being funded from borrowings (including previously issued Bonds and Additional Parity Obligations, (consisting of additional Water System Revenue Bonds and additional loans from the State Water Resources Control Board) and Rate Reduction Bonds described below).

Following is a summary of the currently projected Water System capital program for the Fiscal Years 2020-21 through 2024-25 and the projected external financing requirements over that period. There can be no assurance that costs for construction of the capital improvements to the Water System will not significantly exceed the amounts projected by the Department. See “CERTAIN INVESTMENT CONSIDERATIONS—Costs of Capital Improvement Program; Increased Water Rates.”

Projected Capital Expenditures. The table below indicates, for Fiscal Year 2020-21 through Fiscal Year 2024-25, the expected funding sources for the capital improvements to the Water System expected for such Fiscal Years.

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EXPECTED FUNDING SOURCES FOR CAPITAL IMPROVEMENTS
TO THE WATER SYSTEM
(\$ in millions)

Fiscal Year Ending June 30	Internally Generated Funds	Parity Obligations ¹	Rate Reduction Bonds ²	Total Projected Capital Expenditures ³
2021	\$ 339	\$ 476	\$ 0	\$ 816
2022	402	606	0	1,008
2023	370	774	0	1,144
2024	361	514	492	1,367
2025	<u>352</u>	<u>464</u>	<u>373</u>	<u>1,190</u>
Total	<u>\$1,824</u>	<u>\$2,835</u>	<u>\$865</u>	<u>\$5,525</u>

Source: Department of Water and Power of the City of Los Angeles.

¹ Consists of additional Water System Revenue Bonds and proceeds of additional loans from the State Water Resources Control Board. A portion of the proceeds of the Series A Bonds will be used to reimburse the Department for capital improvement expenditures it made during Fiscal Year 2019-20.

² The utility project charge will not be included in the revenues of the Department, and therefore, the Rate Reduction Bonds will not be payable out of the revenues of the Department or from the Water Revenue Fund, and the debt service on the Rate Reduction Bonds will not be included in the Department's calculation of debt service coverage.

³ Totals may not equal sum of parts due to rounding.

The capital program for Fiscal Years 2020-21 through 2024-25 is focused on projects necessary to comply with increasing water quality standards, expand and upgrade the existing distribution system, including the replacement of aging infrastructure, protect existing water supplies, develop new water resources and meet other regulatory requirements. Major components of the program include:

Safe Drinking Water Program

- Trunk line replacements and installations supporting water quality improvement projects. The Department estimates that these projects will cost approximately \$227.5 million.
- Chlorination stations and treatment facilities – additions, upgrades, and improvements of new and existing treatment facilities necessary to provide and maintain water quality. The Department estimates that these projects will cost approximately \$119.7 million.
- Groundwater remediation and cleanup – facilities to treat contaminated groundwater supplies, both centralized and local well-head facilities. The Department estimates that these projects will cost approximately \$403.2 million.
- Meter Replacement Program – replacement of water meters throughout the City. The Department estimates that this project will cost approximately \$112.9 million.
- Water Quality Improvement Program – Reservoir Improvements. Facilities necessary to provide reliable service while removing open reservoirs from direct service. The Department estimates that this project will cost approximately \$93.1 million.
- Water treatment improvements, including corrosion protection, and additions and betterments to the Water System. The Department estimates that these projects will cost approximately \$345.9 million.

Owens Valley Regulatory Program

- Supplemental dust control and master plan for Owens Lake to mitigate dust at the dry lake bed. The Department estimates that these projects will cost approximately \$188.6 million. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY—Owens Valley and Mono Basin Environmental Commitments.”

Local Water Supply Program

- Groundwater management in San Fernando Basin, Central Basin and smaller basins within the City. The Department estimates that these projects will cost approximately \$78.4 million.
- Capital improvements to the Los Angeles Aqueduct system, including relining and coating aqueduct piping, improving channels, and improvements to control structures. The Department estimates that these projects will cost approximately \$162.2 million.
- Recycled water including distribution facilities for irrigation, and industrial uses throughout the City, including pipelines, tanks, and pumping facilities and ground water replenishment projects. The Department estimates that these projects will cost approximately \$481.0 million.
- Stormwater capture – projects to increase watershed capacity to capture and use local stormwater, including improvements to spreading grounds, street improvements, and wetlands improvements. The Department estimates that these projects will cost approximately \$146.6 million.
- Water Conservation – investments in efficiency rebates, technical assistance programs and investments in Water System conservation devices. The Department estimates that these projects will cost approximately \$90.4 million.

Water System Infrastructure Program

- Replacement of aging infrastructure and providing new facilities and enlargements for additional supply. Facilities include: pumping stations, regulator stations, mainlines, trunk lines, seismic improvements, tanks and reservoirs, meters and services. The Department estimates that these projects will cost approximately \$2.3 billion.

Other Infrastructure and Operational Support

- Investments in support facilities and equipment, security improvements, technology investments, and fleet equipment used to support Water System operations. The Department estimates that these programs will cost approximately \$793.7 million.

Rate Reduction Bonds. In accordance with California Assembly Bill 850, which was sponsored by the Department and was adopted by the State Legislature and signed by Governor Brown in October 2013, as amended by Assembly Bill 305, which was adopted by the State Legislature and signed by Governor Newsom on September 5, 2019 (collectively, “AB 850”), the Department may finance a portion of its capital improvement program with “Rate Reduction Bonds.” The Rate Reduction Bonds would be issued by the Southern California Public Water Authority (the “Water JPA”), a joint powers authority created by the

Department and the City of Burbank. The Rate Reduction Bonds would be secured by a separately imposed utility project charge that would be imposed by the Water JPA on the customers of the Department.

As of the date of this Official Statement, the Water JPA has not set the amount of the utility project charge that will be charged to the Department's customers. The utility project charge will not be included in the revenues of the Department, and therefore, the Rate Reduction Bonds will not be payable out of the revenues of the Department or from the Water Revenue Fund, and the debt service on the Rate Reduction Bonds would not be included in the Department's calculation of debt service coverage. The Department expects that the first series of Rate Reduction Bonds will be issued in Fiscal Year 2023-24. Under AB 850, the Department's authorization to issue Rate Reduction Bonds expires on December 31, 2026.

OPERATING AND FINANCIAL INFORMATION

Summary of Operations

For the nine months ended March 31, 2020, approximately 37.6% of total water sold (based on volume) was to single family residential customers, 30.8% to multi residential dwelling customers, 22.1% to commercial and industrial customers, and the remainder to other users. The table below presents certain summary operating information with respect to the Water System.

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WATER SYSTEM
SELECTED OPERATING INFORMATION
(Unaudited)

	Nine Months Ended March		Fiscal Year Ended June 30				
	2020 ²	2019	2019	2018	2017	2016	2015
Operating Statistics:							
Water Supply (Millions of							
Billing Units of 100 cu. Ft.):							
Local Underground Supply	10.5	11.9	14.0	9.5	22.3	34.4	39.4
Los Angeles Aqueduct	100.7	90.3	136.1	134.0	92.6	22.3	25.1
Deliveries From							
Metropolitan	43.1	54.9	60.0	79.6	95.7	150.6	167.9
Recycled Water	3.1	2.3	3.3	4.2	3.5	4.3	4.5
Total Supply ¹	<u>157.3</u>	<u>159.4</u>	<u>213.4</u>	<u>227.3</u>	<u>214.1</u>	<u>211.6</u>	<u>236.9</u>
Less:							
Transfers and Diversions To							
(From) Storage	(0.8)	(0.2)	0.7	0.1	3.4	(1.0)	10.0
System Uses and Losses	4.9	12.4	17.1	21.7	18.3	14.3	6.9
Total Water Sold ¹	<u>153.2</u>	<u>147.2</u>	<u>195.6</u>	<u>205.5</u>	<u>192.4</u>	<u>198.3</u>	<u>220.0</u>
Water Sales (Millions of							
Billing Units of 100 cu. Ft.):							
Single-family Residential	56.8	55.7	72.9	78.5	72.6	72.6	82.6
Multiple Dwelling Units	46.6	46.0	61.4	62.6	61.2	62.2	65.4
Commercial and Industrial	33.4	32.7	44.2	46.4	45.0	47.3	50.0
Other	14.3	12.8	16.9	18.2	17.2	17.2	18.2
Total ¹	<u>151.1</u>	<u>147.2</u>	<u>195.4</u>	<u>205.7</u>	<u>196.0</u>	<u>199.2</u>	<u>216.2</u>
Average Number of Customers							
(In Thousands):							
Single-family Residential	493	491	491	489	487	484	483
Multiple Dwelling Units	121	121	121	121	121	121	121
Commercial and Industrial	67	66	66	65	65	65	65
Other	8	8	8	8	7	8	7
Total ¹	<u>689</u>	<u>686</u>	<u>687</u>	<u>683</u>	<u>680</u>	<u>678</u>	<u>676</u>
Operating Revenues (In							
Thousands):							
Single-family Residential	\$387,834	\$371,819	\$ 515,176	\$ 509,614	\$ 450,384	\$ 457,961	\$ 431,943
Multiple Dwelling Units	291,272	276,187	396,035	352,123	338,623	339,787	331,238
Commercial and Industrial	192,698	181,768	262,276	254,734	264,690	277,786	268,971
Other	56,227	55,777	80,016	73,710	64,850	56,243	50,428
Total ¹	<u>\$928,031</u>	<u>\$885,551</u>	<u>\$1,253,503</u>	<u>\$1,190,181</u>	<u>\$1,118,547</u>	<u>\$1,131,777</u>	<u>\$1,082,581</u>
Average Revenue Per Hundred							
Cubic Feet Sold:							
Single-family Residential	\$6.829	\$6.678	\$7.066	\$6.482	\$6.207	\$6.304	\$5.231
Multiple Dwelling Units	6.247	6.002	6.448	5.622	5.536	5.462	5.063
Commercial and Industrial	5.763	5.551	5.936	5.525	5.885	5.879	5.380
Other	3.942	4.365	4.742	4.059	3.766	3.279	2.773
Average Consumption Per							
Person Per Day (Gallons)							
	104	105	105	112	102	104	113

Source: Department of Water and Power of the City of Los Angeles.

¹ Totals may not add up due to rounding.

² Data for the nine-months ended March 31, 2020 is preliminary and subject to change. Results for the first nine months of Fiscal Year 2019-20 may not be indicative of results for the full Fiscal Year 2019-20. See "CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic."

Financial Information

The table below presents certain summary financial information with respect to revenues, expenses and debt service coverages for the Water System.

WATER SYSTEM SUMMARY OF REVENUES, EXPENSES AND DEBT SERVICE COVERAGE (Dollars in Thousands) (Unaudited)

	Nine Months Ended March 31		Fiscal Year Ended June 30 ¹				
	2020 ⁷	2019	2019	2018	2017	2016	2015
Operating Revenues:							
Single-family Residential	\$387,834	\$371,819	\$ 515,176	\$ 509,614	\$ 450,384	\$ 457,961	\$ 431,944
Multiple Dwelling Units	291,272	276,187	396,035	352,123	338,623	339,787	331,238
Commercial and Industrial	192,698	181,768	262,276	254,734	264,690	277,786	268,971
Other	56,227	55,777	80,016	73,710	64,850	56,243	50,428
Total Operating Revenues ²	<u>\$928,031</u>	<u>\$885,551</u>	<u>\$1,253,503</u>	<u>\$1,190,181</u>	<u>\$1,118,547</u>	<u>\$1,131,777</u>	<u>\$1,082,581</u>
Operating Expenses:							
Purchased Water	\$112,527 ⁸	\$167,379 ⁸	\$155,603	\$184,957	\$194,699	\$261,971	\$273,132
Maintenance and Other Operating Expenses	<u>449,322</u>	<u>449,269</u>	<u>612,123</u>	<u>500,937</u>	<u>505,910</u>	<u>473,798</u>	<u>460,151</u>
Total Operating Expenses Excluding Depreciation ²	<u>\$561,849</u>	<u>\$616,648</u>	<u>\$767,726</u>	<u>\$685,894</u>	<u>\$700,609</u>	<u>\$735,769</u>	<u>\$733,283</u>
Operating Income Before Depreciation	\$366,182	\$268,903	\$485,777	\$504,287	\$417,938	\$396,008	\$349,298
Nonoperating Revenues, Net	\$ 28,788	\$36,422	\$ 40,690	\$ 25,357	\$ 34,977	\$ 28,279	\$ 24,819
Capital Contributions	<u>29,620</u>	<u>18,503</u>	<u>25,810</u>	<u>33,155</u>	<u>31,183</u>	<u>46,752</u>	<u>34,390</u>
Adjusted Change in Fund Net Position Before Depreciation, Amortization and Interest ³	<u>\$424,590</u>	<u>\$323,828</u>	<u>\$552,277</u>	<u>\$562,799⁹</u>	<u>\$484,098⁹</u>	<u>\$471,039⁹</u>	<u>\$408,507⁹</u>
Debt Service							
Interest ⁴	\$185,946	\$180,150	\$243,730	\$231,522	\$217,521	\$195,519	\$186,664
Principal	<u>77,330</u>	<u>71,295</u>	<u>80,556</u>	<u>78,303</u>	<u>61,391</u>	<u>45,604</u>	<u>30,123</u>
Total Debt Service on Bonds ²	<u>\$263,276</u>	<u>\$251,445</u>	<u>\$324,286</u>	<u>\$309,825</u>	<u>\$278,912</u>	<u>\$241,123</u>	<u>\$216,787</u>
Depreciation and Amortization	\$147,489	\$131,528	\$176,634	\$165,290	\$156,809	\$144,186	\$136,559
Debt Service Coverage ^{5,6}	N/A	N/A	1.70x	1.82x	1.74x ⁷	1.95x ⁷	1.88x ⁷

Source: Department of Water and Power of the City of Los Angeles.

¹ Derived from the Water System Financial Statements.

² Totals may not add up due to rounding.

³ "Adjusted" indicates measurements of financial and/or operating performance that are not specifically disclosed in the Water System Financial Statements, as depreciation, amortization and interest are included as a component of the increase in net position in the Water System Financial Statements.

⁴ Excludes amortization of debt expenses/premiums.

⁵ Adjusted Change in Fund Net Position Before Depreciation and Interest divided by Total Debt Service on Bonds.

⁶ Between Fiscal Years 2020-21 and 2024-25, the Department expects approximately \$3.7 billion of the costs of its capital improvement program will be paid with external financing sources, including Additional Parity Obligations (consisting of additional Water System Revenue Bonds and additional loans from the State Water Resources Control Board) and Rate Reduction Bonds. The issuance of any Additional Parity Obligations may result in a decline in the debt service coverage ratio. See "WATER RATES—Board Adopted Financial Planning Criteria."

⁷ Data for the nine-months ended March 31, 2020 is preliminary and subject to change. Results for the first nine months of Fiscal Year 2019-20 may not be indicative of results for the full Fiscal Year 2019-20. See "CERTAIN INVESTMENT CONSIDERATIONS—COVID-19 Pandemic."

⁸ The Purchased Water expense for the nine-months ended March 31, 2020 and March 31, 2019 are estimates and subject to change. The full Fiscal Year Purchased Water expense may be more or less than such estimates.

⁹ Beginning with the Fiscal Year ended June 30, 2017, Allowance for Funds Used During Construction was not accounted for in Change in Fund Net Position Before Depreciation and Interest, and the figures for the Fiscal Years ended June 30, 2015 through 2017 have been restated to also reflect this change.

Outstanding Indebtedness

General. As of March 31, 2020, the Department had approximately \$5.89 billion in principal amount of debt outstanding payable from the Water Revenue Fund, comprised of approximately \$5.15 billion of revenue bonds (including the Refunded Bonds), \$736 million of loans (including the Prepaid State Loans) provided to the Department by the State Water Resources Control Board, and a \$1 million loan from the Department of Water Resources pursuant to Proposition 1. In connection with the Department's expected capital improvements to the Water System, the Department anticipates that it will fund approximately \$2.835 billion of the costs of the capital improvements with proceeds of additional debt payable from the Water Revenue Fund to be issued and/or incurred through June 30, 2025. The Department expects that an additional approximately \$865 million of costs of the capital improvements will be funded with proceeds of the Rate Reduction Bonds. The Rate Reduction Bonds will not be payable out of the revenues of the Department or from the Water Revenue Fund. See "WATER SYSTEM INFRASTRUCTURE PROGRAM—Projected Capital Improvements" and "Note (6) – Long-Term Debt" in "APPENDIX A—FINANCIAL STATEMENTS" attached hereto.

As of the date of this Official Statement, the Department has not entered into any derivative financial products with respect to the Water System.

Standby Bond Purchase Agreements.

The Department's (a) Water System Variable Rate Demand Revenue Bonds, 2001 Subseries B-1, B-2 and B-3 (the "Subseries 2001B-1/B-2/B-3 Bonds"), (b) Water System Variable Rate Demand Revenue Bonds, 2001 Subseries B-4 (the "Subseries 2001B-4 Bonds"), (c) Water System Variable Rate Demand Revenue Bonds, 2019 Subseries A-1 and A-2 (the "Subseries 2019A-1/A-2 Bonds"), and (d) Water System Variable Rate Demand Revenue Bonds, 2019 Subseries A-3 (the "Subseries 2019A-3 Bonds," and collectively with the Subseries 2001B-1/B-2/B-3 Bonds, Subseries 2001B-4 Bonds and the Subseries 2019A-1/A-2 Bonds, the "Variable Rate Bonds") were initially issued to bear and currently bear interest at variable rates. In connection with the Variable Rate Bonds, the Department has entered into four separate standby bond purchase agreements (collectively, the "Standby Agreements"), respectively, as described in the following table:

Subseries of Bonds	Outstanding Principal Amount of Bonds	Provider of Standby Agreement	Expiration Date of Standby Agreement
2001B-1/B-2/B-3	\$225,000,000	Royal Bank of Canada	January 15, 2021
2001B-4	100,000,000	Citibank, N.A.	January 25, 2022
2019A-1/A-2	200,000,000	The Toronto-Dominion Bank, New York Branch	January 25, 2022
2019A-3	29,765,000	Citibank, N.A.	July 1, 2020

In the event Royal Bank of Canada, Citibank, N.A. or The Toronto-Dominion Bank, New York Branch (collectively, the "Variable Rate Banks") are required to purchase the respective Variable Rate Bonds ("Variable Rate Bank Bonds") as a result of a failure by the applicable remarketing agent to remarket such Variable Rate Bonds, the Department is required pursuant to the applicable Standby Agreement to pay all principal of and interest on such Variable Rate Bank Bonds to the applicable Variable Rate Bank within five years of such Variable Rate Bank's purchase of such Variable Rate Bank Bonds. Upon the happening of an event of default under a Standby Agreement (which include, among other events, the Department's

failure to pay the applicable Variable Rate Bank any amounts due under the applicable Standby Agreement, the Department's failure to pay principal of and interest on any Outstanding Bonds or other obligations of the Department payable from the Water Revenue Fund on parity with the Series A Bonds, or the Department's failure to comply with the covenants under the applicable Standby Agreement), all obligations of the Department to the applicable Variable Rate Bank under such Standby Agreement will be immediately due and payable. Any repayment obligations of the Department incurred pursuant to the Standby Agreements are payable from the Water Revenue Fund on parity with the Series A Bonds.

Wells Fargo Credit Agreement. On December 14, 2018, the Department entered into an amended and restated revolving credit agreement (the "Wells Fargo Credit Agreement") with Wells Fargo Bank, National Association ("Wells Fargo"), pursuant to which Wells Fargo has committed to make loans to the Department in a principal amount not-to-exceed \$300 million outstanding at any one time; provided that the Department can request that Wells Fargo increase the available commitment under the Wells Fargo Credit Agreement by an additional \$200 million, with approval of such increase being at the sole discretion of Wells Fargo. The Department can request loans for Water System improvements, Power System improvements and/or such other lawful purposes of the Department. Loans for Water System improvements and purposes are payable from the Water Revenue Fund; and loans for Power System improvements and purposes are payable from the Power Revenue Fund. As of March 31, 2020, the Department had no loans outstanding under the Wells Fargo Credit Agreement. Under the Wells Fargo Credit Agreement, which expires on December 13, 2023, amounts due may be paid by the Department at any time at its option and in the event of default under the Wells Fargo Credit Agreement, amounts outstanding would be due immediately. The Department expects to pay principal amounts due under the Wells Fargo Credit Agreement and payable from the Water Revenue Fund from proceeds of subsequent borrowings or from reserves available to the Water System. Amounts borrowed under the Wells Fargo Credit Agreement and payable from the Water Revenue Fund are considered Parity Obligations under the Master Resolution.

FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY

The Department is required to comply with various federal and State drinking water rules and regulations. The Department has a compliance manager and supporting staff that are responsible for monitoring federal and State drinking water rules and regulations and the Water System's compliance with these rules and regulations. The Department is in material compliance with all federal and State drinking water rules and regulations. Following is a discussion of certain federal and State rules and regulations that must be complied with by the Department in connection with the operation of the Water System. See "CERTAIN INVESTMENT CONSIDERATIONS—Statutory and Regulatory Compliance."

Owens Valley and Mono Basin Environmental Commitments

Owens Valley.

Owens Lake Dust Control. Historically, the Owens River was the main source of water for Owens Lake. Diversion of water from the river, first by farmers in the Owens Valley and then by the City, combined with the naturally-fluctuating lake level, resulted in significant reductions in the elevation of water in the lake by the late 1920s. The resulting exposed lakebed became a significant source of windblown dust resulting in the EPA classifying the southern Owens Valley as a serious non-attainment area for particulates (dust) in 1991. The EPA required the Great Basin Unified Air Pollution Control District ("GBUAPCD") to prepare a State Implementation Plan to bring the region into compliance with federal air quality standards by 2006. GBUAPCD is a California regional government agency established in 1974 by the counties of Inyo, Mono and Alpine pursuant to a joint powers agreement, whose purpose is to enforce federal, State and local air quality regulations and to ensure that the federal and state air quality

standards are met in the Great Basin Valleys Air Basin. The attainment of the federal air quality standards by 2006 has been revised by the GBUAPCD to March 23, 2017, and codified in the GBUAPCD's 2008 Owens Valley PM10 Planning Area Demonstration of Attainment State Implementation Plan.

In 2001, the Department began mitigating dust emissions from Owens Lake in response to the GBUAPCD's orders (the "Owens Lake Dust Mitigation Program"). At completion of Phase 9/10, in December 31, 2017, the Department had completed dust mitigation measures on approximately 48.6 square miles of Owens Lake at an approximate cost of \$2.0 billion.

In August 2011 and November 2012, GBUAPCD issued its Final 2011 Supplemental Control Requirements Determinations ("Final 2011 SCRD") and its Final 2012 Supplemental Control Requirements Determinations ("Final 2012 SCRD"), respectively. The Final 2011 SCRD and the Final 2012 SCRD call for the Department to mitigate dust emissions from an additional 3.61 square-miles of Owens Lake. The Department challenged both the Final 2011 SCRD and the Final 2012 SCRD. On December 30, 2014, the Department and GBUAPCD agreed to a stipulated judgment (the "Stipulated Judgment") that was lodged with the Superior Court of the State, County of Sacramento. Pursuant to the Stipulated Judgment, GBUAPCD agreed to limit future dust mitigation orders to no more than 53.4 square miles and the Department agreed to mitigate the dust emissions on the areas cited in the Final 2011 SCRD and the Final 2012 SCRD. After completion of the Phase 9/10 Project described above, the Department will mitigate dust emission on an additional 4.8 square miles, which once completed, will meet the Department's commitment to mitigate 53.4 square miles. The Department and GBUAPCD also agreed to work together on balancing their co-equal goals of air quality improvements and water conservation.

See "THE WATER SYSTEM—Origins of the Los Angeles Aqueduct System; Recent Events Affecting the Los Angeles Aqueduct System—Recent Events Affecting the Los Angeles Aqueduct System."

Owens Valley Groundwater Management. As a result of litigation relating to the Department's extraction of Owens Valley groundwater, an environmental impact report and a long-term groundwater management plan (the "Owens Valley Groundwater Agreement") were prepared jointly by the Department and Inyo County and approved by the California Court of Appeal in 1991. The Department currently manages its groundwater resources in the Owens Valley in accordance with the Owens Valley Groundwater Agreement. Under the Owens Valley Groundwater Agreement, the Department's goal is to avoid certain decreases and changes in vegetation and to cause no significant effect on the environment that cannot be acceptably mitigated, while providing a reliable supply of water for export to the City and for use in Inyo County.

Other Environmental Efforts in the Owens Valley; Lower Owens River Project. The Department supplies water to enhancement and mitigation projects as part of its legal obligations in the Owens Valley stemming from the Owens Valley Groundwater Agreement. Currently, the Department is providing approximately 10,000 acre-feet per year of water to various enhancement and mitigation projects throughout Owens Valley. Additionally, approximately 18,000 acre-feet of water is supplied annually to re-water the lower portion of the Owens River (the "Lower Owens River Project").

Mono Basin. Prior to 1989, the Department exported approximately 95,000 acre-feet per year of water from the Mono Basin to the City, which accounted for approximately 15% of the Water System's total water supply at that time. In December 1989, the Department stopped exporting water from the Mono Basin as a result of a preliminary injunction issued by the Superior Court of El Dorado County. This injunction ordered the Department to allow a sufficient amount of water to pass the Department's Mono Basin diversion facilities to restore and maintain the water level of Mono Lake at a temporary minimum elevation of 6,377 feet above mean sea level. In 1994, the State Water Resources Control Board issued the

Mono Lake Basin Water Right Decision 1631 (“Decision 1631”) which amended the Department’s licenses by limiting water exports from the Mono Basin based on Mono Lake’s surface elevation.

Based on Decision 1631, water exports from the Mono Basin are limited to 16,000 acre-feet per year until Mono Lake reaches a target surface elevation of 6,391 feet above mean sea level and 4,500 acre-feet per year if the water level in Mono Lake falls below 6,380 feet above mean sea level. If the water level in Mono Lake falls below 6,377 feet above mean sea level, no water can be exported by the Department. As required by Decision 1631, the Department is undertaking certain restoration activities in the Mono Basin including implementing an extensive monitoring program and improving stream conditions, fisheries and waterfowl habitats. During the recent statewide drought the water level in Mono Lake dropped below 6,380 feet above mean sea level, which resulted in the Department exporting only 4,500 acre-feet of water from Mono Lake in 2015, 2016 and 2017. In 2018 and 2019, the water level of Mono Lake was approximately 6,382 feet each year above mean sea level and exports increased to 16,000 acre-feet of water. As of April 1, 2020, the water level of Mono Lake was 6382.6 feet above mean sea level, and therefore, Mono Basin water exports for 2020 are expected to be again 16,000 acre-feet. If the elevation of Mono Lake reaches 6,391 feet above mean sea level, a moderate increase in water exports from the Mono Basin above the 16,000 acre-feet limit will be permitted pursuant to Decision 1631. Since the issuance of Decision 1631, on average, approximately 74,000 acre-feet per year of Department water, which otherwise would have been exported to the City, has been allowed to flow to Mono Basin for environmental restoration.

In August 2013, the Board approved a settlement between the Department and certain stakeholders associated with Mono Basin with respect to certain water rights issues related to instream flow requirements mandated by Decision 1631 and its related orders. The settlement agreement provides a plan to implement several actions, including, the Department upgrading the Grant Lake Reservoir Dam (the Department will construct a bypass structure at the Department’s Grant Lake facility, which is the current source of water impoundment for export from Mono Basin to the City) and the subsequent delivery of long-term flows, an extensive monitoring program, oversight and bringing to closure earlier requirements stemming from Decision 1631 and subsequent restoration orders from the State Water Resources Control Board. It is expected, that the upgrades to the Grant Lake Reservoir Dam will cost the Department approximately \$50 million. The settlement agreement still requires final approval from the State Water Resources Control Board in the form of a water rights license. The Department intends to conduct additional environmental analysis to evaluate potential environmental impacts caused by high water flows specified in the proposed water rights license.

Other Eastern Sierra Uses. The Department also provides water for other uses in Long Valley and the Owens Valley such as irrigation, stockwater, wildlife and recreational purposes. Currently, the Department is providing approximately 107,000 acre-feet per year of water for these purposes.

Groundwater System Challenges and Remediation Efforts

The San Fernando Basin provides over 80% of the Department’s total groundwater supply. The San Fernando Basin also is an established EPA Superfund Cleanup Site. Superfund is the primary federal government program to clean up uncontrolled hazardous waste sites in the United States. An EPA Superfund Cleanup Site is any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for clean-up because it poses a risk to human health or the environment or both. Water quality challenges resulting from the presence and spread of various contaminants including TCE, PCE and other emerging contaminants of concern, including hexavalent chromium (commonly referred to as “Chromium 6”) and 1,4-Dioxane, limit the Department’s ability to optimize the use of groundwater from the San Fernando Basin and may pose a risk to future supplies. The Department believes that if effective remediation and cleanup measures are not put in place, the various contaminants found in the San Fernando Basin will ultimately present a threat to this important component of the City’s drinking

water supply. If all groundwater in the San Fernando Basin were lost to contamination, the replacement cost would be approximately \$70 million per year (based on court adjudicated water rights and the current cost of purchasing Tier 1 treated water from Metropolitan). The Department is working with the EPA, the Los Angeles Regional Water Quality Control Board, the Division of Drinking Water of the State Water Resources Control Board (the “Division of Drinking Water”) and the California Department of Toxic Substances Control to monitor and detect contamination and to implement a comprehensive remediation process to address groundwater contamination in the San Fernando Basin.

North Hollywood Operable Unit. The North Hollywood Operable Unit Initial Interim Remedy (the “NHOU-1IR”), located in the North Hollywood Well Field in the San Fernando Basin, was completed in December 1989 to contain the contamination from the Honeywell International, Inc. (formerly Bendix), Lockheed Martin Corporation (“Lockheed”) and other potentially responsible parties (the “PRPs”) facilities and properties. The NHOU-1IR was designed to extract up to 2,000 gallons per minute of groundwater and remove TCE and PCE from the upper zone of the San Fernando Basin in the North Hollywood area of Los Angeles County prior to treatment and disinfection for potable use by the City. TCE and PCE are removed from contaminated groundwater by utilizing an aeration facility. The EPA financed a major portion of the capital costs for the NHOU-1IR and, since 2015, has annually paid 100% of the operating and maintenance costs. The EPA is then reimbursed by the PRPs. The NHOU-1IR was designed to focus on the most concentrated part of the contamination plume. However, in 2005, it was determined by the EPA that NHOU-1IR was not able to fully contain the contamination and the plume continued to migrate towards more of the Department’s production wells. The Department is currently working with the EPA on the design of a new operable unit known as the North Hollywood Operable Unit Second Interim Remedy (the “NHOU-2IR”) that will better contain the higher concentration of contamination plumes. The NHOU-2IR also will be designed to treat other contaminants of concern, including Chromium 6 and 1,4-Dioxane that have been detected. The total treatment capacity of NHOU-2IR will be approximately 8,500 acre-feet per year. Phase 1 of the NHOU-2IR is expected to be operational by the fourth quarter of 2021. The NHOU-2IR is to be fully designed, constructed and financed by the PRPs. All costs associated with the operation and maintenance of the NHOU-2IR will be paid by the PRPs.

In October 2018, the Department and Lockheed entered into a Settlement and Release Agreement (the “Lockheed Settlement Agreement”), pursuant to which Lockheed, among other things, agreed to have an average of 4,670 acre-feet of treated water (meeting applicable drinking water standards) per year provided to the Water System. Lockheed has agreed to assist in conveying groundwater from the North Hollywood Well Field – East Branch to a treatment facility owned and operated by the City of Burbank (the “Burbank Operable Unit”). Once the water is treated at the Burbank Operable Unit, the water will be conveyed to the Water System’s distribution system. Under the Lockheed Settlement Agreement, Lockheed will be obligated to provide this water to the Water System until such time as the EPA determines that Lockheed is no longer a PRP with respect to the North Hollywood Well Field in the San Fernando Basin.

Pollock Wells Treatment Plant. The Pollock Wells Treatment Plant was completed and placed into operation in March 1999. The facility can treat up to 3,000 gallons per minute of groundwater from the Pollock Wells.

Chromium 6 Issues. The situation in the San Fernando Basin has been complicated by the detection of high levels of Chromium 6 in two of the seven NHOU-1IR extraction wells (NHOU-1IR Extraction Wells No. 2 and 3). In February 2007, the Department voluntarily shut down NHOU-1IR Extraction Well No. 2 due to elevated total Chromium and Chromium 6 concentration levels (206 parts per billion and 199 parts per billion, respectively), and removed the well from the water treatment system and in March 2013, the Department notified the Los Angeles Regional Water Quality Control Board and the EPA that it had shut down NHOU-1IR Extraction Well No. 3 due to elevated total Chromium and Chromium 6

concentration levels (168 parts per billion and 163 parts per billion, respectively). The shutdown of NHOU-11R Extraction Wells No. 2 and 3 have reduced the available groundwater for the “pump-and-treat” system, which are an integral part of the Water System, and the containment of contaminated groundwater. As described above, the NHOU-21R is designed to treat Chromium 6, in addition to TCE, PCE, and 1,4 Dioxane.

At high concentrations, Chromium 6 has been known to cause cancer when inhaled and also has been linked to cancer when ingested. In July 2014, the Division of Drinking Water issued its final maximum contaminant level for Chromium 6 of 10 parts per billion, but that level was later invalidated by a court. As a result of the court’s ruling, no maximum contaminant level currently exists for Chromium 6. Currently, the federal government does not specifically regulate Chromium 6; it regulates total Chromium (which includes Chromium 6 and Chromium 3 (which is harmless and actually a required nutrient)). The State and federal maximum contaminant level for total Chromium is 50 micrograms per liter and 100 micrograms per liter, respectively. The treatment plants funded primarily by the EPA, including the NHOU-11R, to address the TCE and PCE contaminants in the San Fernando Basin are not designed to remove Chromium 6 from the water. The Department cannot predict if new contaminant levels for Chromium 6 will be adopted by the State or the federal government or the cost of treating water affected by Chromium 6.

Tujunga Temporary Groundwater Treatment Plant –Pilot Study. The Department operates a pilot liquid-phase granular activated carbon facility for the removal of volatile organic contaminants from two of the production wells in the Tujunga Well Field, located in the San Fernando Basin. The pilot facility extracts, removes and treats approximately 8,000 gallons-per-minute of groundwater for potable use by the City. The pilot facility started delivering treated water into the distribution system in May 2010. This pilot study is a joint project with Metropolitan to employ innovative treatment technologies to recover use of contaminated production wells. The total capital cost for this project was \$7.5 million. To date, the pilot study continues to successfully contain the plume and removed TCE and PCE contaminants within the well field, allowing more wells to be operated. However, the pilot system is now threatened by 1,4-dioxane plumes just upgradient of the wells. The pilot study is not capable of removing 1,4-dioxane.

Groundwater System Improvements. In February 2009, the Department awarded a six-year, \$11.5-million contract to an engineering consulting firm to conduct a groundwater system improvement study (the “Groundwater Study”) for the San Fernando Basin. The objective of the Groundwater Study was to provide short- and long-term solutions for remediation, containment, cleanup and removal of contaminated groundwater in the San Fernando Basin for environmental and public benefits, as well as the prevention of further loss of this groundwater resource. Completed in 2015, the Groundwater Study has enabled the Department to assess the extent of the groundwater contamination and provide recommendations on effective remediation and cleanup technologies for removal of contaminants from the groundwater. As part of the Groundwater Study, the Department installed additional monitoring wells to collect information that will enable the Department to validate and characterize the San Fernando Basin groundwater quality.

California Safe Drinking Water Act of 1996

The California Safe Drinking Water Act of 1996 introduced recommended Public Health Goals to drinking water regulations, which represent non-mandatory goals based solely on public health considerations (without consideration of occurrence, technical feasibility or cost) developed on the basis of the best available health effects data in current scientific literature. Public Health Goals, established by the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency are analogous to the federal maximum contaminant level goals. Every three years, water agencies must prepare a Public Health Goals Report that discusses how closely the water served meets the State Public Health Goals and the federal maximum contaminant level goals. For contaminants that are above their

respective Public Health Goals, the water agency must present the known health effects and estimate the cost to treat the water to achieve the applicable Public Health Goals. The Department issued its most recent Public Health Goals Report in July 2019. The report estimated that it would cost approximately \$5.6 billion to meet all of the recommended Public Health Goals. The Department includes both Public Health Goals and maximum contaminant level goals in its annual “LA’s Drinking Water Quality Reports” (also known as a consumer confidence report), which is required by State and federal drinking water regulations. The Department’s next Public Health Goals Report will be due in 2022.

Federal Safe Drinking Water Act Amendments of 1996

As noted above, the federal Safe Drinking Water Act Amendments of 1996 require all public water systems to prepare an annual consumer confidence report that describes in plain language the Department’s water quality and relevant health information. The EPA grants the State “primacy” to enforce all federal drinking water regulations as long as the state standards are not less stringent than federal standards. California has required similar reporting since 1989, and the Department complied with the State requirements by including an annual water quality report insert with customers’ water bills. Additional federal requirements for specific mandatory content in the consumer confidence report meant the Department could no longer fit the content into a bill insert format. To comply with the requirements of the federal regulations, the Department previously provided a separate report that was mailed directly to all Department customers annually. In 2014, the EPA no longer required water agencies to mail the report directly to all customers. The Department now notifies all customers of the availability of the report via their bill and through e-mail notifications and posts the report on its website. The 2018 electronic report was made available to customers on June 30, 2019. Printed copies are available to customers on request.

Surface Water Treatment

1989 Surface Water Treatment Rule. The Federal Surface Water Treatment Rule, issued by the EPA in 1989 under the Safe Drinking Water Act Amendments of 1986 (the “Federal Surface Water Treatment Rule”), established specific treatment requirements as an alternative to numerical drinking water standards for several microbiological contaminants commonly found in surface water. The Federal Surface Water Treatment Rule requires the Department to filter and disinfect its Los Angeles Aqueduct surface water supply, and any open distribution reservoir vulnerable to contamination by storm water runoff. The Filtration Plant met the requirements for the Federal Surface Water Treatment Rule for the Los Angeles Aqueduct supply. However, the Department operated 10 open distribution reservoirs, four of which were vulnerable to storm water runoff (Upper and Lower Hollywood, Lower Stone Canyon and Encino reservoirs) and currently complies with all applicable requirements of the Federal Surface Water Treatment Rule.

Subsequent Surface Water Treatment Rules. The EPA continued to refine the Federal Surface Water Treatment Rule by issuing several subsequent regulations including the Enhanced Surface Water Treatment Rule, the Long Term 1 Enhanced Surface Water Treatment Rule, the Backwash Rule and most recently the Long Term 2 Enhanced Surface Water Treatment Rule promulgated by the EPA in January 2006 pursuant to the Safe Drinking Water Act Amendments of 1996. The Long Term 2 Enhanced Surface Water Treatment Rule requires all open distribution reservoirs not addressed by the previous rules to be covered, treated or removed from service. The State Waterworks Standard further requires all distribution reservoirs to be covered. However, the Department’s open distribution reservoirs were exempted from the State Waterworks Standard because they were in existence prior to the 1974 requirement.

The Long Term 2 Enhanced Surface Water Treatment Rule affects the Department’s six remaining open reservoirs: the Los Angeles Reservoir, the Santa Ynez Reservoir, the Silver Lake Reservoir, the Upper Stone Canyon Reservoir, the Ivanhoe Reservoir and the Elysian Reservoir. To comply with the Long Term

2 Enhanced Surface Water Treatment Rule, the Department negotiated a compliance agreement with the Division of Drinking Water because compliance with the Long Term 2 Enhanced Surface Water Treatment Rule could not be achieved by the regulatory deadline of April 2009. The second compliance agreement was approved by the Department and the Division of Drinking Water in March 2009. The Department will undertake the following remediation:

- Install floating cover – Santa Ynez Reservoir (project has been completed)
- UV treatment with shade balls – Los Angeles Reservoir (consists of two projects; one of which is completed and the other one is scheduled for completion in 2020)
- Install floating cover – Upper Stone Canyon Reservoir and Elysian Reservoir (the Elysian Reservoir and the Upper Stone Canyon Reservoir have been covered)
- Bypass and replace with off-site storage – Silver Lake Reservoir and Ivanhoe Reservoir (The Silver Lake Reservoir was officially removed from service in December 2013; and the Ivanhoe Reservoir was officially removed from service in December 2017. The Headworks Reservoir, consisting of Headworks Reservoir – East and Headworks Reservoir – West, will replace the storage of the Silver Lake and Ivanhoe Reservoirs. Headworks Reservoir – East is in operation and the Headworks Reservoir – West is currently under construction, along with necessary pipeline construction.)

Compliance with the Long Term 2 Enhanced Surface Water Treatment Rule has been a primary focus of the Department's Water System capital improvement program for the past decade. The final facilities required to be constructed by the Department in connection with the Long Term 2 Enhanced Surface Water Treatment Rule are expected to be completed in 2020. See "WATER SYSTEM INFRASTRUCTURE PROGRAM—Projected Capital Improvements."

Disinfection Byproduct Rule

Pathogens, such as Giardia and Cryptosporidium, are often found in surface water, and can cause gastrointestinal illness and other health risks. In many cases, water must be disinfected to inactivate (or kill) these microbial pathogens. However, disinfectants like chlorine and ozone can react with naturally-occurring materials in the water to form byproducts such as, trihalomethanes, haloacetic acids, chlorite and bromate. These byproducts, if consumed in excess of the EPA's standard over many years, may lead to increased health risks. The EPA issued the Stage 2 Disinfection Byproduct Rule to further protect public health by limiting exposure to these disinfectant byproducts. As of April 2014, the Department had complied with the EPA Stage 2 Disinfection Byproduct Rule, with the installation of a UV treatment facility, the addition of shade balls on the reservoirs, and the addition of treatment facilities to convert the distribution system from chlorine to chloramine. Since the Water System conversion to chloramine in May 2014, the existence of disinfection byproducts in the Water System has been reduced by more than 50%. See "THE WATER SYSTEM—Water Treatment Facilities—Disinfection."

Corrosion Control

Corrosion control strategies have been developed in response to federal regulations related to the control of lead and copper in drinking water (the "Lead and Copper Rule"). In 1992, 2003, 2006, 2009, 2012, 2015, 2017, 2018 and 2019 at-the-tap monitoring of customer homes for the presence of lead and copper was conducted in the City. The 2019 at-the-tap monitoring of customer homes demonstrated that the Department was in compliance with the federal action levels for both lead and copper. Additionally, the Department was required to identify and remove all known lead pipes in the distribution system.

Although the Department has remained in compliance with the at-the-tap federal action levels in the City since 1992, the regulation nonetheless requires large water agencies like the Department to implement optimized corrosion control treatment to further reduce the corrosivity of tap water and the subsequent leaching of lead and copper from home plumbing. In 2018, a third-party review of the Corrosion Control Program indicated that the Department is fully optimized in meeting the Lead and Copper Rule. The Department will continue its Corrosion Control Program and monitor for lead and copper to protect public health.

Fluoride

In October 1995, California State Assembly Bill No. 773 became law and required water agencies serving more than 10,000 people to add fluoride to the water supply if funding became available. In the same year, the City Council adopted a resolution endorsing optimized fluoride levels in the Department's water supply. The Board approved water fluoridation for the City. The Water System began water fluoridation treatment in August 1999. All of the Department's customers receive water with the optimum level of fluoride as recommended by State and federal health officials (including the revised optimum levels released by the U.S. Centers for Disease Control and Prevention in 2015). In October 2007, Metropolitan began adding fluoride to treated water, which eliminated the Department's need to fluoridate Metropolitan sources that supplement the City's supplies.

Radon

The EPA first proposed regulations to protect people from exposure to radon in 1998 (the "Radon Rule"). The framework for the latest proposed Radon Rule is set forth in the Safe Drinking Water Act Amendments of 1996, which proposes a multimedia approach to address the public health risks from radon in drinking water and radon in indoor air from all sources. The costs of compliance that limits radon in water will depend on the final Radon Rule. The Radon Rule proposed two standards: a maximum contaminant level of 300 picoCuries/liter ("pCi/L") in water or an alternative maximum contaminant level of 4,000 pCi/L along with an approved multimedia mitigation program. Natural levels of radon in water in local and Owens Valley wells range from 400 – 2,500 pCi/L. At a 300 pCi/L level, treatment would be required for Owens Valley township wells, and may be necessary for San Fernando Basin wells and for some Central Basin wells. The Department estimates that the costs for in-City compliance would be approximately \$10 million, excluding land purchases for facility siting. The final Radon Rule was expected to be promulgated in 2002 but has been delayed indefinitely.

Ground Water Rule

The EPA's Groundwater Rule ("GWR"), issued pursuant to the Safe Drinking Water Act Amendments of 1996, is the complement to the Federal Surface Water Treatment Rule. The GWR establishes a risk-targeted approach to identify groundwater systems susceptible to contamination, establishes disinfection treatment requirements for drinking water supply wells, and delineates vulnerable recharge areas surrounding such wells. The disinfection and monitoring requirements of the GWR depend on the vulnerability of each individual well to bacteria and viruses. The GWR grants considerable discretion to states regarding implementation. The California Department of Public Health GWR requirements became effective in December 2009. All California water purveyors must demonstrate adequate disinfection treatment for bacteria and viruses or develop a monitoring plan that must be approved by the Division of Drinking Water. All City water supplies and Owens Valley townships wells have been disinfected with chlorine since the early 1930s. The Department's groundwater sources are relatively free of bacterial contamination based on monthly source monitoring. Additionally, the Department already provides the level of disinfection required by the GWR for all non-emergency groundwater sources, and is in compliance with the GWR without the need for additional capital improvements.

Drinking Water Source Assessment Program

The EPA's Drinking Water Source Assessment Program, part of the Safe Drinking Water Act Amendments of 1996, requires utilities to conduct sanitary surveys (or update existing surveys) for surface water sources, to conduct source assessment surveys for ground water sources, and to identify and categorize potential risks of contamination to each source of supply. The Department's Watershed Sanitary Survey Report that was completed in 2019 makes recommendations to improve the watershed management programs for Lower Stone Canyon. Groundwater assessments are used to implement wellhead protection measures to protect ground water sources from contamination. The Department conducted groundwater source assessments in 2002 for each of its in-City well fields. More recently, the Department conducted a comprehensive source assessment in the San Fernando Basin to develop a comprehensive groundwater treatment plan to address local contamination in the San Fernando Basin. See —Groundwater System Challenges and Remediation Efforts" above. Future regulations may require additional protective measures.

Potential Issues Relating to Water Quality

The State utilizes two separate contaminant definitions; notification levels ("NL") and response levels ("RL"), both of which address unregulated contaminants that may be of future regulatory consideration. The NL is the level above which a water agency must inform their governance of the finding of an unregulated contaminant in their source water, while the RL is the level above which the water agency must take action to reduce an unregulated contaminant's presence in the water supply. NLs and RLs are not enforceable standards, but influence the Department's use of some water sources.

Another challenge to the Department and to water quality is the increase in the percentage of State Water Project water that supplements the Los Angeles Aqueduct supply and that is treated at the Filtration Plant. The composition of natural occurring contaminants and organic carbon matter in both of these source waters varies considerably and thereby presents separate challenges to water quality compliance, especially in the area of disinfection by-products. The Department is evaluating the addition of enhanced coagulation to the Filtration Plant treatment process, to minimize organic carbon and arsenic in these source waters. The Fairmont Reservoir along the Los Angeles Aqueduct (which is no longer used by the Department) has been selected as a site for additional treatment of State Water Project water. Treatment technologies are being evaluated and the project is expected to commence in 2021.

Future revisions to drinking water standards may impact the type and quality of treatment necessary for the continued use of the Department's local and imported supplies. Major areas of focus with emerging contaminants are Cytotoxins, endocrine disrupting compounds ("EDCs"), pharmaceuticals and personal care products ("PPCPs"), microplastics and per- and polyfluoroalkyl substances ("PFAS"). These groups of constituents are an evolving concern, especially in the arid Southwest regions of the United States, where water agencies are looking to augment their water supplies with non-traditional sources, including recycled wastewater. The Department is committed to recycling and replenishing its groundwater basin with advanced treated recycled water, and the removal of EDCs, PPCPs, microplastics and PFAS will be an integral part of the Department's water treatment processes.

Additionally, customer expectations of improvements in the aesthetic quality of tap water remain high. Efforts are continuing to maintain the high quality of water throughout the distribution system. Progress continues with covering or by-passing the remaining one uncovered in-City reservoir and eliminating sources of water quality degradation within the distribution system. On-going measures to improve water quality include elimination of low-pressure water mains, management of contaminant plumes in the San Fernando Basin, installation of lead-free residential water meters and renewal and rehabilitation of older distribution mains.

Security

In response to increased security concerns, the Department has augmented its distribution system water quality monitoring program with specialized water security monitoring and surveillance. The Department is researching and evaluating the practicality and reliability of real-time, on-line water quality monitoring. Early warning monitoring systems are also being evaluated. Notwithstanding these measures, no assurances can be made that a terrorist attack (domestic or foreign) will not occur at a Department facility, on Department resources or within the State. The Department is unable to determine the effects of any such attack. See “CERTAIN INVESTMENT CONSIDERATIONS—Risks Relating to the Water Supply and the Sufficiency of Water Supply—Security of the Water System

CERTAIN INVESTMENT CONSIDERATIONS

The ability of the Department to pay principal of and interest on the Series A Bonds depends primarily upon the receipt by the Department of revenues from the Water System. Some of the events which could prevent the Department from receiving a sufficient amount of revenues to enable it to pay the principal of and interest on the Series A Bonds are summarized below. The following description of investment considerations is not intended to be an exhaustive list associated with the purchase of the Series A Bonds and the order of the investment considerations set forth below does not necessarily reflect the relative importance of the various risks.

Special Obligations

The Series A Bonds will be special obligations of the Department payable only from the Water Revenue Fund, and not out of any other fund or moneys of the Department or the City. The Series A Bonds will not constitute or evidence an indebtedness of the City or a lien or charge on any property nor on the general revenues of the City. Neither the faith and credit nor the taxing power of the City is pledged to the payment of the Series A Bonds.

No assurance can be made that revenues of the Water System, estimated or otherwise, will be realized by the Department in amounts sufficient to pay the principal of and interest on the Series A Bonds. Among other matters, drought, above-normal levels of precipitation, general and local economic conditions and changes in law and government regulations (including initiatives and moratoriums on growth) could adversely affect the amount of revenues realized by the Department. In addition, the realization of future revenues is subject to, among other things, the capabilities of management of the Department, the ability of the Department to provide water to its customers, and the ability of the Department to establish, maintain and collect rates and charges sufficient to pay the operation and maintenance expenses of the Water System and the principal of and interest on the Series A Bonds. See “WATER RATES” herein.

Costs of Capital Improvement Program; Increased Water Rates

As described herein, between Fiscal Years 2020–21 and 2024–25, the Department’s capital improvement program for the Water System is currently estimated to cost approximately \$5.7 billion. The actual cost of constructing the various components of the capital improvements to the Water System will depend on a variety of factors, including but not limited to potential rising costs or shortages of labor or materials, the discovery of unforeseen subsurface conditions, earthquake, flood or other natural disasters, severe weather conditions, access to the financial markets or other events outside of the control of the Department. There can be no assurance that costs for construction of the capital improvements to the Water System will not significantly exceed the amounts projected by the Department.

The Department estimates that up to approximately 67% of the costs of the capital improvement program between Fiscal Years 2020-21 and 2024-25 would be funded with external financing, including previously issued Bonds and Additional Parity Obligations (consisting of additional Water System Revenue Bonds and additional loans from the State Water Resources Control Board) and Rate Reduction Bonds. The costs of the capital improvement program will require an increase in Water Rates in order to pay for the capital improvement program, including the payment of debt service on the Additional Parity Obligations expected to be issued in the future to fund the capital improvement program. In addition to the Water Rates, the Water JPA will be required to impose a utility project charge on the Department's customers in order to secure the repayment of the Rate Reduction Bonds. Failure to institute timely rate increases could adversely affect the Department's ability to fully complete the capital improvement program, including the projects necessary to comply with federal and State water quality mandates. Additionally, any rate increases could increase the likelihood of nonpayment by purchasers of water from the Department and could also decrease demand from such purchasers. As described in more detail under "WATER RATES," on March 15, 2016, the City Council approved the current Water Rate Ordinance, which will, among other things, increase Water Rates in order for the Department to pay for the projects in the capital improvement program.

Further, although the Department has covenanted to fix rates, subject to the approval of the City Council, for service from the Water System, and collect charges for such service, such as to provide revenues that, together with the other available funds of the Department, will be at least sufficient to pay, as the same become due, the principal of and interest on the Outstanding Bonds (including the Series A Bonds) and all other outstanding bonds, notes, and other evidences of indebtedness payable out of the Water Revenue Fund, in addition to paying, as the same become due, the necessary expenses of operating and maintaining the Water System and all other obligations and indebtedness payable out of the Water Revenue Fund, there can be no assurance that such amounts will be collected in the amounts and at the times necessary to pay the principal of and interest on the Bonds, including the Series A Bonds.

Rate-Setting Process Under Proposition 218

Proposition 218, which added Articles XIIC and XIID to the State Constitution, affects the Department's ability to impose future rate increases, and no assurance can be given that future rate increases will not encounter majority protest opposition or be challenged by initiative action authorized under Proposition 218. In the event that future proposed rate increases cannot be imposed as a result of majority protest or initiative, the Department might thereafter be unable to generate sufficient revenues to pay the principal and interest on the Bonds, including the Series A Bonds. See "WATER RATES—Procedures for Changes to the Water Rate Ordinance—Proposition 218" herein.

Notwithstanding the foregoing, the Department has covenanted to fix rates and collect charges for water service at a level at least sufficient to meet its debt requirements and to pay the expenses of operating and maintaining the Water System, as set forth under "SOURCE OF PAYMENT—Rate Covenant" herein. The Water Rates set forth in the current Water Rate Ordinance are being imposed in compliance with Proposition 218.

See "LITIGATION—Water Rates Litigation" for a discussion of a lawsuit recently filed by certain ratepayers of the Department that allege, among other things, that the Water Rates currently charged under the Water Rate Ordinance are unconstitutional and violate Proposition 218.

Statutory and Regulatory Compliance

Laws and regulations governing treatment and delivery of drinking water are enacted and promulgated by federal, state and local government agencies. Compliance with laws and regulations

governing the treatment and delivery of drinking water may be costly, and, as more stringent standards may be enacted to protect the environment and water quality, these costs will likely increase. Existing conditions, as well as anticipated regulatory requirements, could require significant increases in capital and/or operating costs of the Water System.

Claims against the Water System for failure to comply with applicable laws and regulations could be significant. Such claims are payable from the Water Revenue Fund. In addition to claims by private parties, changes in the scope and standards for public agency water systems such as that operated by the Department may also lead to administrative orders issued by federal or State regulators. Future compliance with such orders can also impose substantial additional costs payable from the Water Revenue Fund. No assurance can be given that the cost of compliance with such laws, regulations and orders would not adversely affect the ability of the Water System to generate revenues sufficient to pay the principal and interest on the Bonds, including the Series A Bonds. See “FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY” herein.

Risks Relating to the Water Supply and Sufficiency of Water Supply

The Department's water supply and the cost thereof are affected by many factors, including but not limited to annual snowpack and rainfall, population growth, water use, groundwater basin quality and recharge trends, federal and State environmental rules and regulations, environmental restoration commitments, water quality, climate change, and area of origin issues. Sustained drought conditions or continued low water levels could adversely affect the Department's water supply, impact operational expenses of the Water System and demand for water services from the Water System. Additionally, any natural disaster or other physical calamity, including acts of terrorism, earthquake, earth movements, floods, extreme weather or gradual climate change, may have the effect of reducing water availability, quality and/or distribution capabilities of the Department, impair the financial stability of the Department, affect infrastructure and other public improvements and private improvements and the continued habitability and enjoyment of such private improvements.

Drought Risks. The ability of the Water System to operate effectively is affected by the water supply available to the City, which is situated in a semi-arid environment. If the water supply decreases significantly, whether by drought, operation of mandatory supply restrictions, prohibitively high water costs or otherwise, Water System sales will diminish and revenues available to pay the debt service on the Bonds, including the Series A Bonds, may be adversely affected. While the Department has plans and manages reserve supplies to account for normal occurrences of drought conditions, between late 2011 and late 2016 the State experienced one of the worst droughts in recorded State history, which severely restricted water supplies to Southern California. Additionally, water supplied to the Water System is being affected by environmental issues in the Owens Valley, the Mono Basin and the Bay-Delta. See “WATER SUPPLY.”

As discussed in more detail under “WATER SUPPLY — Water Conservation Actions Taken in Response to Recent Drought,” as a result of the severe drought conditions that existed in the State between late 2011 and late 2016, the State and the City took, and continue to take, numerous actions to mitigate the effects of the drought, including, among others, implementing conservation and water restriction programs. Reduced water usage by the customers of the Department resulted in reduced Water System revenues, however, such revenue reductions were partially offset by a reduction in operating expenses as a result of less water having to be purchased from Metropolitan. Additionally, the existing water rate structure contains several elements available to the Department that help assure financial stability in the event of decreasing sales of water, including, among other elements, the Base Rate Revenue Target Adjustment factor, which provides for the recovery of a specified amount of base rate revenue (essentially consistent with budgeted base rate revenue).

Future droughts could result in mandatorily enforced conservation measures and other mitigations that could have a material adverse impact on Department revenues available to pay the debt service on the Bonds, including the Series A Bonds.

Reliance on Water Purchased from Metropolitan. On average, over the five Fiscal Years ended June 30, 2019, approximately 49% of the Department's water supply was derived from purchases of water from Metropolitan. During Fiscal Years 2014-15 and 2015-16, 70% of the Department's water supply each Fiscal Year was provided from purchases of water from Metropolitan. During Fiscal Years 2016-17, 2017-18 and 2018-19, the Department's water supply provided by purchases of water from Metropolitan decreased to 43%, 35% and 28%, respectively. If the Department's reliance on water purchased from Metropolitan increases, its expenses with respect to purchased water increases. Additionally, any material reductions in the amount of water available to be purchased from Metropolitan could adversely affect the operations and finances of the Water System. In the near-term, the Department expects to continue to purchase, on average, approximately 50% of its water supply requirements from Metropolitan. See "Environmental Rules and Regulations." See also "WATER SUPPLY—The Metropolitan Water District of Southern California" and "WATER SUPPLY—Meeting Future Customer Needs—Projected Supply and Demand."

Specific Environmental Rules Affecting the Water System. Various federal and State rules and regulations and court decisions have affected and will continue to affect the amount of water available to the Department. See "FACTORS AFFECTING THE DEPARTMENT AND THE WATER UTILITY INDUSTRY" for a discussion of some of the rules, regulations and court decisions that limit the amount of water available to the Department from the Owens Valley, the Mono Basin and the San Fernando Basin. Additionally, recent federal and State court decisions and environmental regulations have severely restricted the amount of water that may be delivered by Metropolitan to the Department from the Bay-Delta. Operational constraints in the Bay-Delta likely will continue until a long-term solution to the problems in the Bay-Delta is identified and implemented. The Department cannot predict if future federal and State rules and regulations will be enacted or if future court decisions will be decided that further restrict water deliveries to the Department and what affect such reduced water deliveries may have on the operations and finances of the Water System.

Climate Change. One of the factors that may pose a risk to the future availability of water in the City is climate change. Rising temperatures could result in earlier runoff and cause California's rivers to carry a heavier flow of water. This could possibly trigger floods which would place pressure on California levees. Such conditions, particularly in the Bay-Delta region, may lead to the failure of levees and consequently the disruption of water flow throughout California's various water systems. Rising temperatures may also result in decreased precipitation levels that could amplify the effects of drought conditions on water supply. Rising temperatures may also cause a reduction in the Sierra Nevada snowmelt, a major source of water in California, and may result in reduced water deliveries. The Department is unable to predict whether or when any such conditions may occur or their impact on the Department.

To address the possible challenges posed by climate change on the Los Angeles Aqueduct, the Department completed a climate change study in 2011 that evaluated the potential impacts of climate change on the Eastern Sierra Nevada watershed and the Los Angeles Aqueduct water supply and deliveries, and investigated opportunities to improve the system as a result of these impacts over the next hundred years. Results of the study show steady temperature increases throughout the 21st Century and are consistent with other prior studies performed in the scientific community. While the Department continues to better understand the potential impact that climate change may have on the City's water supply, efforts are underway to enhance both local water resources and efficient water management strategies to ensure a reliable water supply for the City.

Above-Normal Precipitation. Just as too little water can negatively affect the revenues of the Water System, above-normal precipitation also can negatively affect the revenues of the Water System. Historically, in years where the City receives above-normal levels of precipitation, the residents of the City purchase comparatively less water than in years with normal levels of precipitation, which can lead to reduced Water System revenues.

Seismic Activity. Several major active and potentially damaging faults underlie the City as well as the Owens Valley and the Mono Basin. The Los Angeles Aqueduct, which provides a significant amount of the City's water supply by conveying water from the Owens Valley and Mono Basin watersheds, crosses several major active faults that could generate large earthquakes, including the San Andreas, Garlock and Owens Valley Faults. The Department also receives water supplies from Metropolitan via the California Aqueduct and the Colorado River Aqueduct. Major portions of the California Aqueduct, the Colorado River Aqueduct and Metropolitan's internal supply system are located near major earthquake faults, including the San Andreas Fault. A significant seismic event on any of these faults could damage aqueducts and supply lines sufficiently to disrupt water delivery to the Department, potentially resulting in lower revenues.

In the case of the San Andreas Fault, the Los Angeles Aqueduct crosses the fault zone through one tunnel, which is known as the Elizabeth Tunnel. A magnitude 7.8 to 8.0 earthquake on the San Andreas Fault has been projected to cause lateral offset of 20 feet or more, thereby potentially cutting off the flow of all Owens Valley water to the City. Steps to implement a real-time monitoring system are being made that would collaboratively install and utilize United States Geological Survey monitoring points and data at the Elizabeth Tunnel site that could rapidly identify tunnel alignment offsets in order to provide an effective response. Since a San Andreas event is expected to be a magnitude 7.8 or larger earthquake, many aftershocks, some as large as 7.0 to 7.5, would be expected in the months following. The hazard of large aftershocks would make it difficult, if not impossible, to repair the tunnel during the first few months following such an earthquake. In such an event the Water System would recover by initiating immediate water conservation measures and utilizing supplies from several redundant sources. Storage in Water System reservoirs south of the San Andreas Fault would be used to supplement the temporary loss of aqueduct water. The Water System maintains several large reservoirs that can help fulfill this purpose including three reservoirs, Hollywood Reservoir, Stone Canyon Reservoir and Encino Reservoir, maintained solely for emergency purposes. In addition, Metropolitan can supply water to the City through raw and treated water connections from the California Aqueduct and Colorado River Aqueduct, if they are not damaged, or once they are repaired. See "WATER SUPPLY." While these operational changes are implemented, Department staff would be engaged in assessing damage and implementing emergency response to restore Elizabeth Tunnel to service. In a very large event, it is possible for all three aqueducts to be damaged at the same time, however due to their different locations crossing the San Andreas fault some of the aqueducts will be repairable in a much shorter timeframe than others. Additionally, in December 2001, Metropolitan placed the Diamond Valley Lake into service as an emergency reserve that, according to Metropolitan's estimates, can supply one-third of the Southern California population with emergency water for approximately six months. It is also possible to place a temporary smaller pipe connection over the mountains to provide a limited source of Los Angeles Aqueduct water, although it is difficult to estimate the timeframe for placing such a connection into service after a large earthquake event.

An earthquake on the Garlock Fault could also seriously damage the First and Second Los Angeles Aqueducts. However, since the aqueducts are separate and closer to the surface at most other fault crossings, they would be easier to repair. In addition to the major active faults, there are a large number of other smaller active faults that could cause outages to aqueducts and other facilities of the Water System. The length of any such outage would depend on the extent of the damage and the nature of the facilities. Active faults within and close to the City also have the capability of interrupting the City's water supply and damaging Water System facilities. The 1971 San Fernando Earthquake seriously affected the Water

System by severely damaging distribution pipelines and other parts of the Water System. As a result of seismic improvements since 1971, the Water System received less damage from the 1994 Northridge earthquake, even though it was of the same magnitude as the 1971 earthquake. Improvements are continuing following lessons learned from the 1994 and other earthquakes that make the Water System more resilient to earthquake effects.

The California Aqueduct crosses major faults either by canal at ground level or by pipeline at very shallow depths to ease repair in case of damage from movement along a fault. State Water Project facilities are designed to withstand earthquakes without major damage. Similar to Department facilities, dams, for example, are designed to resist earthquake forces on their embankments. Earthquake loads have been taken into consideration in the design of project structures such as pumping and power plants. The location of check structures on the canal allows for hydraulic isolation of the fault-crossing repair. Metropolitan's water conveyance and distribution facilities are designed to either withstand a maximum probable seismic event or to minimize the potential repair time in the event of damage. Metropolitan personnel and independent consultants periodically reevaluate the distribution system's vulnerability to earthquakes. Metropolitan is now implementing a seismic resilience program. Supplies are dispersed throughout Metropolitan's service area, and a six-month reserve supply of water normally held in local storage (including emergency storage in Diamond Valley Lake) provides reasonable assurance of continuing water supplies during such events.

The Department and Metropolitan (according to information received by the Department) maintain surveillance programs that monitor the safety and structural performance of all their large dams and reservoirs. In addition, the Department and Metropolitan have developed emergency plans that call for specific levels of response appropriate to an earthquake's magnitude and location. Included in these responses are various communication tools as well as a structured plan of management that varies with the severity of the event. Water System personnel routinely conduct inspections of all Department-owned larger dams falling under the jurisdiction of the Department of Water Resources Division of Safety of Dams. Routine maintenance of all water storage facilities, both in-City and along the Los Angeles Aqueduct, are conducted to monitor the safety and structural integrity of these facilities over time.

Conditions may occur which may result in damage to facilities in varying degrees; such damage may entail significant repair or replacement costs and there can be no assurance that such repair or replacement will occur. While certain facilities are designed to withstand earthquakes without major damage, there can be no assurance that supplies will not be interrupted in the event of an earthquake.

For a discussion of the Department's efforts to seismically strengthen certain facilities see "WATER SYSTEM INFRASTRUCTURE PROGRAM—Seismic Strengthening of Facilities."

In March 2015, the Uniform California Earthquake Rupture Forecast (the "2015 Earthquake Forecast") was issued by the Working Group on California Earthquake Probabilities. Organizations sponsoring the Working Group on California Earthquake Probabilities include the U.S. Geological Survey, the California Geological Survey, the Southern California Earthquake Center and the California Earthquake Authority. According to the 2015 Earthquake Forecast, the probability of a magnitude 6.7 or larger earthquake over the next 30 years (from 2014) striking the greater Los Angeles area is 60%. From the Uniform California Earthquake Rupture Forecast published in April 2008 (the "2008 Earthquake Forecast"), the estimated rate of earthquakes around magnitude 6.7 or larger decreased by about 30%. However, the estimate for the likelihood that California will experience a magnitude 8.0 or larger earthquake in the next 30 years (from 2014) increased from about 4.7% in the 2008 Earthquake Forecast to about 7.0% in the 2015 Earthquake Forecast. The 2015 Earthquake Forecast considered more than 250,000 different fault-based earthquakes, including multifault ruptures, whereas the 2008 Earthquake Forecast considered approximately 10,000 different fault-based earthquakes.

The Department, under the direction of the Los Angeles Mayor's office developed the Seismic Resilience Program. The goal of the program is to implement Water System seismic planning, evaluation, and monitoring useful to identify needed migrations throughout the City and the Los Angeles Aqueduct. The program includes a study to identify mitigation alternatives for the Los Angeles Aqueduct crossing through the San Andreas Fault.

While it is impossible to accurately predict the cost or effect of a major earthquake on the Water System or to predict the effect of such an earthquake on the Department's ability to provide continued uninterrupted service to all parts of the Department's service area, there have been various studies conducted to assist the Department in assessing seismic risks. Based on these studies, the Department completed numerous projects designed to mitigate seismic risks and seismically strengthen Water System infrastructure and facilities. See "WATER SYSTEM INFRASTRUCTURE PROGRAM—Seismic Strengthening of Facilities." No studies have been conducted or commissioned by the Department outside of the State. See "THE DEPARTMENT—Insurance."

Volcanic Activity. The Long Valley, a large caldera located north of Owens Valley, and the Mono Basin area are part of a large active and complex volcanic system. In the past 5,000 years, an estimated 20 small eruptions have occurred in this region. The latest eruption was 250 years ago and was located on one of the islands in Mono Lake. Since 1978, there has been a marked increase in seismic activity and bulging of the ground surface due to volcanic activity several kilometers below the ground surface. This renewed activity continues in cycles typified by earthquake swarms of more than 1,000 small earthquakes per day at the peak of a cycle. Since 1978, the United States Geological Survey has predominantly classified this volcanic hazard as Condition Green, which is defined as "no immediate risk" of eruption. However, three times in the last 20 years the hazard has been temporarily upgraded to Condition Yellow, which signifies "intense volcanic unrest." The classification of this volcanic hazard may change with limited warning.

Eruptions in the region in the past 5,000 years have been relatively small, much smaller than (one tenth to one half) the size of the Mount St. Helens eruption. There is a low possibility that a large eruption could occur similar in size to the Mount St. Helens eruption.

Conditions may occur which may result in damage to facilities in varying degrees; such damage may entail significant repair or replacement costs and there can be no assurance that such repair or replacement will occur. While certain facilities are designed to withstand volcanic eruption without major damage, there can be no assurance that supplies will not be interrupted in the event of a volcanic eruption.

Wildfires. Water conveyance facilities generally consist of pipelines and connections, flow control facilities, and pumping stations, which are not typically vulnerable to damage by wildfires. The above ground facilities within the Water System are designed to be tolerant to damage by wildfires through the use of fire resistant material where possible, such as concrete and masonry blocks. In addition, the Department works closely with the City's fire department to ensure that proper vegetative clearances are maintained in and around the properties and facilities of the Water System. The Department watches for wildfires that may threaten the facilities of the Water System and operations and maintenance crews are dispatched to ensure that all above-ground facilities remain safe and operational.

Security of the Water System. Military conflicts and terrorist activities (including, but not limited to, cyberterrorism) may adversely impact the operations and finances of the Water System. The Department continually plans and prepares for emergency situations and immediately responds to ensure the quality and service of water is maintained. In response to increased security concerns, the Department has augmented its distribution system water quality monitoring program with specialized water security monitoring and surveillance. The Department is researching and evaluating the practicality and reliability of real-time, on-line water quality monitoring. Early warning monitoring systems are also being evaluated.

However, there can be no assurance that any existing or additional safety and security measures will prove adequate in the event that terrorist activities are directed against the Water System or that costs of security measures will not be greater than presently anticipated. Further, damage to certain components of the Water System could require the Department to increase expenditures for repairs to the Water System significantly enough to adversely impact the Department's ability to pay debt service on the Bonds, including the Series A Bonds.

Metropolitan has reported that it has increased ground and air patrols of the Colorado River Aqueduct. In addition, Metropolitan has increased the frequency of monitoring and testing at all treatment plants in addition to various sites along the Colorado River Aqueduct. Although Metropolitan has constructed redundant systems and other safeguards, no assurance can be given that existing or additional safety and security measures will prove adequate in the event that terrorist activities are directed against the Water System to prevent a disruption of Metropolitan's ability to deliver water to its member agencies, including the Department, through the Colorado River Aqueduct or the State Water Project, or that costs of security measures will not be greater than presently anticipated, which could adversely impact the Department's ability to pay the debt service on the Bonds, including the Series A Bonds.

California State Water Legislation

In 2009, a comprehensive package of water legislation was enacted that included a mandate to reduce per capita urban water usage by 20% by 2020 (which the Department has already accomplished), new regulations to monitor groundwater levels, and an \$11.1 billion general obligation bond measure that will require the approval of the voters of the State (the "State Water Bonds").

The State Water Bonds were approved by voters on the statewide November 2014 ballot as Proposition 1 ("Proposition 1"). Proposition 1 authorizes \$7.5 billion in funding to support and implement state water supply infrastructure projects and programs, including \$800 million for the prevention and cleanup of groundwater contamination, \$725 million for water recycling, and \$810 million for integrated regional water management statewide. As of the date of this Official Statement, the Department has been awarded \$330.9 million of Proposition 1 funding, of which \$3 million is part of a statewide revolving fund program for water conservation and efficiency measures, for projects such as the North Hollywood Central Response Action Treatment Facility and the Tujunga Spreading Grounds Enhancement Project.

As stated in the 2015 UWMP, the Department plans to invest in projects to enhance local water supplies and reduce reliance on purchased water by promoting stormwater capture and increasing recycled water use. The Department is also working diligently to promote additional water conservation and to accelerate the remediation of the City's local groundwater basins. The Department has received Proposition 1 funding, and expects to apply for and additional funding from Proposition 1 in the future, to support planning and implementation of many of these efforts. Outside funding from Proposition 1 would offset interest costs that would otherwise be borne by the ratepayers (the Department is obligated to pay back the principal amount of any Proposition 1 funding it receives)

In 2018 and 2019, the California State Legislature enacted, and the respective Governors signed, three long-term water use efficiency bills, Senate Bill 606 (2018), Assembly Bill 1668 (2018) and Assembly Bill 1414 (2019), to establish a new foundation for long-term improvements in water conservation and drought planning to adapt to climate change and the resulting longer and more intense droughts in California. The legislation sets standards for indoor residential use and requires the State Water Resources Control Board, in coordination with the Department of Water Resources, to adopt efficiency standards for outdoor residential use, water losses, and commercial, industrial and institutional outdoor landscape areas with dedicated irrigation meters. All new requirements for urban water use objectives are effective after June 2022 when the State Water Resources Control Board adopts urban water use efficiency standards,

performance measures, and variances. Under the new authorities and requirements (including the revised reporting deadlines set by Assembly Bill 1414), each urban wholesale and retail water supplier must prepare, adopt, and submit a water shortage contingency plan and conduct a drought risk assessment every five years in addition to conducting an annual water supply and demand assessment.

Limitations on Remedies

Upon the occurrence and continuance of an event of default under the Bond Resolution, the owners of the Series A Bonds have limited remedies. Enforceability of the rights and remedies of the owners of the Series A Bonds, and the obligations incurred by the Department, may become subject to the federal bankruptcy code and applicable bankruptcy, insolvency, reorganization, moratorium, or similar laws relating to or affecting the enforcement of creditor's rights generally, now or hereafter in effect, equity principles which may limit the specific enforcement under State law of certain remedies, the exercise by the United States of America of the powers delegated to it by the Constitution, the reasonable and necessary exercise, in certain exceptional situations, of the police powers inherent in the sovereignty of the State and its governmental bodies in the interest of serving a significant and legitimate public purpose, and the limitations on remedies against cities in the State. Bankruptcy proceedings, or the exercise of powers by the Federal or State government, if initiated, could subject the owners of the Series A Bonds to judicial discretion and interpretation of their rights in bankruptcy or otherwise and consequently may entail risks of delay, limitation, or modification of their rights.

COVID-19 Pandemic

The COVID-19 pandemic that has affected the United States and the world during the winter and spring of 2020 has led to efforts to quarantine individuals in order to reduce the spread of the virus. As such, the United States, the State, the County, and the City have each declared a "state of emergency" or equivalent. Additionally, the State issued a "stay at home" order, the County issued a "safer-at-home" order, and the City issued a "safer-at-home" order, all of which severely restrict the movements of residents and generally mandate residents to remain in their home and, in effect, prohibit non-essential workers from working outside their home. This has caused the disruption of daily life in all jurisdictions, including the closure of, among others, bars, dine-in restaurants, retail stores, schools, gyms, movie theatres, certain government buildings and religious institutions, and general prohibitions on gatherings. Restrictions on movement may be expanded as the crisis continues.

In the face of these orders, the Department continues to provide water and power services to its customers. Due to these orders, the Department has implemented several plans to reduce the number of employees in the office and in the field to protect their health and well-being. The Department has implemented telecommuting plans for certain employees and is requiring the wearing of facemasks for anyone at a job site or on Department property. The Department has also enabled field crews to drive to jobsites in separate vehicles, stressed the critical importance of social distancing in the office and in the field, ensured that workplaces are safe and clean, and is reducing meeting size while increasing teleconference meetings. These steps have been very effective at decreasing the number and congestion of employees in office settings and significantly lessening the risk of transmitting COVID-19 among the workforce. Out of a workforce of over 10,000 employees, only a few have tested positive for COVID-19 and in those instances, the Department has informed all of the affected employee's co-workers to immediately self-quarantine consistent with public health guidelines. The Department is taking steps to ensure the continuation of major infrastructure projects; however, certain Department projects and initiatives discussed herein have been delayed due to concerns over the COVID-19 pandemic.

The Department is studying the effects the COVID-19 outbreak will have on the Department, the Water System, and the water utility industry, generally. In response to the COVID-19 outbreak, the

Department has been implementing a number of temporary measures intended to mitigate operational and financial impacts, and to assist the Department's customers, including: (i) to assist customers through any financial hardship that may occur as a result of the COVID-19 outbreak, the Department is widely promoting its existing payment plans and is working on additional extended payment options; (ii) the Department has deferred disconnections of water and power services for non-payment for the remainder of 2020; and (iii) the Department has restored water and power to a small number of residential customers whose services were disconnected after February 24, 2020, due to nonpayment. The measures taken by the Department to date, and additional measures that may be taken in the future, may lead to the increase of uncollected accounts and the decrease of timely payments from Department customers.

In addition, press reports and analysis have suggested several potential effects on the finance and operations of the water utility industry, including but not limited to the following:

- Due to business closures, revenues from water usage may be adversely affected;
- As part of economic stimulus packages associated with the COVID-19 pandemic, there may be mandated grace periods for non-payment of water bills, and therefore, there may be more non-payment of water bills than normal and forecasted;
- Due to possible economic consequences of the COVID-19 pandemic, some water utility customers may be unable to pay their utility bills and the number of uncollected accounts may increase;
- Certain federal regulations imposed by the EPA on water utilities, including the Department, have been suspended due to the COVID-19 pandemic, which may affect the necessity and schedules for certain utility projects and initiatives; and
- Production and delivery of equipment needed for certain utility projects may be delayed due to the COVID-19 pandemic and/or credit related consequences of producers and counterparties of utility projects, and therefore, certain water utility capital projects may be delayed or cancelled.

The Department cannot predict (i) the duration or extent of the COVID-19 outbreak; (ii) to what extent the COVID-19 outbreak may affect the operations and revenues of the Water System; (iii) to what extent COVID-19 may disrupt the local, State, national or global economy, manufacturing or supply chain, or whether any such disruption may adversely impact Water System-related construction, the cost, sources of funds, schedule or implementation of the Water System's capital improvement program, or other Water System operations; (iv) to what extent the Department may provide additional deferrals, forbearances, adjustments or other changes to its customers or its billing and collection procedures; or (v) whether any of the foregoing may have a material adverse effect on the finances and operations of the Water System. Prospective investors should consider that the restrictions and limitations instituted related to COVID-19 may increase (even after they are decreased), and the upheaval to the national and global economies may continue and/or be exacerbated, at least over the near term, and the recovery may be prolonged, and therefore, COVID-19 may adversely impact Water System revenues.

See "THE DEPARTMENT—Retirement and Other Benefits," "THE DEPARTMENT—Investment Policy and Controls," "WATER RATES—Billing and Collections" and "APPENDIX B—DEMOGRAPHIC AND ECONOMIC INFORMATION FOR THE CITY OF LOS ANGELES."

LITIGATION

General

A number of claims and suits are pending against the Department or that directly affect the Department with respect to the Water System for alleged damages to persons and property and for other alleged liabilities arising out of its operations. Certain of these suits are described below. In the opinion of the Department, any ultimate liability which may arise from any of the pending claims and suits is not expected to materially impact the Water System's financial position, results of operations or cash flows.

Water Rates Litigation

On March 4, 2019, certain ratepayers of the Department filed a class action lawsuit (Stephen and Melinda Dreher v. City of Los Angeles Department of Water and Power) against the Department, that alleges, among other things, that the residential service Schedule A Water Rates currently charged under the Water Rate Ordinance are unconstitutional and violate Proposition 218. More specifically, the plaintiffs' complaint alleges that (a) the revenues derived from the Schedule A Water Rates exceed the funds required to provide such water service; (b) the revenues derived from the Schedule A Water Rates are used for purposes different than that for which the Schedule A Water Rates are imposed; and (c) the amount of the Schedule A Water Rates exceeds the proportional cost of the water service attributable to the parcel. The plaintiffs are asking the court to, among other things, (i) declare that the Schedule A Water Rates violate Proposition 218, (ii) enjoin the Department from continuing to impose the Schedule A Water Rates at their current levels and require the City to comply with Proposition 218, and (iii) order the Department to refund the class for the alleged overcharging of Schedule A Water Rates. Plaintiffs' class claims are currently stayed by the court pending the outcome of the writ portion of plaintiffs' complaint. Hearing on the writ is set for November 3, 2020. While, at this time, the Department cannot predict the ultimate outcome of this lawsuit, the Department maintains that its rates are proper and in accordance with Proposition 218.

Lawsuit Against Metropolitan

On June 11, 2010, the San Diego County Water Authority ("SDCWA") filed the lawsuit San Diego County Water Authority v. Metropolitan Water District of Southern California; et al. The complaint alleged that the rates adopted by the board of directors of Metropolitan on April 13, 2010, to be effective January 1, 2011, misallocate State Water Contract costs to the System Access Rate and the System Power Rate, and thus to charges for transportation of water, and that this results in an overcharge to SDCWA by at least \$24.5 million per year. The complaint alleged that all State Water Project costs should be allocated instead to Metropolitan's Supply Rate, even though under the State Water Contract, Metropolitan is billed separately for transportation, power and supply costs. Additionally, the complaint alleged that Metropolitan will overcharge SDCWA by another \$5.4 million per year by including the Water Stewardship Rate in transportation charges.

The complaint requested a court order invalidating the rates and charges adopted on April 13, 2010, and that Metropolitan be mandated to allocate costs associated with State Water Project supplies and the Water Stewardship Rate to water supply charges. Metropolitan contended that its rates are reasonable, equitably apportioned among and approved by its member agencies, and lawful. Nevertheless, to the extent that a court invalidates Metropolitan's adopted rates and charges, Metropolitan is obligated to adopt rates and charges that comply with any mandates imposed by the court, and such rates and charges would still recover Metropolitan's cost of service through its member agencies. Although Metropolitan's revenues would essentially be unaffected, there would be significant costs shift in the long term to the other member agencies (including the City) should SDCWA prevail in this lawsuit. The City, a member agency of Metropolitan, has significant interest in the outcome of this matter. Accordingly, the City filed an answer

to the complaint on August 20, 2010 as an interested party and unnamed party in interest, and joined in the litigation as a defendant. A total of eight member agencies (including the City) joined in the lawsuit in support of Metropolitan. Additionally, all parties to the litigation agreed to a change in venue of the original case, and the case was moved to the Superior Court of California, County of San Francisco. SDCWA also filed first and second amended complaints, alleging additional causes of action against Metropolitan, including a challenge to Metropolitan's preferential rights calculation, which would affect the City.

Trial of the first phase of the lawsuits before the Superior Court of California, County of San Francisco (Case Nos. CPF-10-510830 and CPF-12-512466) concluded on January 23, 2014. On April 24, 2014, the court issued its "Statement of Decision on Rate Setting Challenges," determining that SDCWA prevailed on two of its claims and that Metropolitan prevailed on the third claim. Specifically, the court found that there was not sufficient evidence to support Metropolitan's inclusion in its transportation rates, and hence in its wheeling rate, of either (1) payments it makes to the Department of Water Resources for the State Water Project, or (2) all of the costs incurred by Metropolitan for conservation and local water supply development programs recovered through the Water Stewardship Rate. The court found that SDCWA failed to prove its "dry-year peaking" claim that Metropolitan's rates do not adequately account for variations in member agency purchases.

SDCWA's claims asserting breach of the Exchange Agreement and miscalculation of preferential rights were tried in a second phase of the case, which concluded on April 30, 2015. On August 28, 2015, the Superior Court issued a final statement of decision for the second phase. The decision found in favor of SDCWA on both claims and that SDCWA is entitled to damages in the amount of \$188,295,602 plus interest. On October 9, 2015 and October 30, 2015, the Superior Court granted SDCWA's motion for prejudgment interest at the statutory rate of 10% on these damages.

On November 18, 2015, the Superior Court issued the Final Judgment and a Peremptory Writ of Mandate for both phases of the case, awarding SDCWA damages in the amount of \$188,295,602, plus prejudgment interest of \$46,637,180, for a total judgment of \$234,932,782. On November 19, 2015, Metropolitan filed a Notice of Appeal of the Judgment and Writ. The City also appealed. On May 5, 2016, Metropolitan filed its opening brief in the appeal and the Department joined the brief. Oral arguments before the California Court of Appeal were heard on May 10, 2017. On June 21, 2017, the Court of Appeal reversed certain aspects of the case and remanded certain aspects of the case back to the Superior Court for determination consistent with its opinion. SDCWA filed a petition for review with the California Supreme Court, which the Supreme Court subsequently denied. The Superior Court has begun remand proceedings. In February 2020, SDCWA unilaterally dismissed most of its remaining claims in the 2010 lawsuit and the only remaining, major issue is which party is the prevailing party in the lawsuit and who, if anyone, is entitled to attorneys' fees. The court has scheduled a hearing relating to competing motions regarding the proposed judgment and a case management conference on July 30, 2020. It is likely the court will determine the prevailing party and any appropriate award of attorneys' fees at a later date. The Department cannot predict the ultimate outcome of this litigation; however, the decision of the Court of Appeal is likely to result in a substantially lower judgment than the original judgment awarded by the Superior Court.

Additionally, SDCWA has filed numerous additional lawsuits challenging the rates adopted by Metropolitan for calendar years 2013 through 2020 and charges for calendar years 2018 through 2020, and alleging many of the same arguments as the first lawsuits, plus some additional arguments. Metropolitan, along with certain of its member agencies (including the City), have filed answers to these complaints. The outcome of these additional cases will depend substantially on the final outcome of the first lawsuits, which have been remanded back to the Superior Court as discussed above. The Department cannot predict the ultimate outcome of these additional cases.

Legal Actions Related to New Customer Information and Billing System

Lawsuits Brought Against the Department. As discussed in more detail under “WATER RATES—Billing and Collections” above, numerous issues arose after the implementation of the new customer information and billing system. Several class action lawsuits were filed against the Department by ratepayers claiming damages due to certain of the billing issues that arose because of these problems with the new system. The Department has reached a settlement in certain of those lawsuits (Sharon Bransford, Steven Shrager and Rachel Tash v. City of Los Angeles et al., Los Angeles Superior Court Case No. BC565618; Haley Fontaine v. City of Los Angeles et al., Los Angeles Superior Court Case No. BC571644; Yaar Kimhi, Tahl Beckerman Megerdichian and Yelena Novak v. The City of Los Angeles, et al., Los Angeles Superior Court Case No. BC536272; and Jones v. City of Los Angeles, Los Angeles Superior Court Case No. BC577267 (the “Jones Action” and, collectively, the “Settled Billing Class Actions”). On July 20, 2017, the Court granted final approval of the settlement of the Settled Billing Class Actions. The Department is currently implementing the settlement. The settlement provides for, among other things: (1) a review by the Department of all customer accounts for accuracy from September 2013 to December 30, 2016; (2) the Department making whole any customer who was overcharged, regardless of how small the error, resulting from the failed implementation of the customer information and billing system; (3) the Department setting benchmarks and key performance indicators to improve its customer service (an independent monitor will review the progress made and report to the Court every three months); and (4) the Department adopting an amendment to its “Rules Governing Water and Electric Service,” which will generally reduce the number of months that “back-billing” (defined as the submission of a bill by the Department to an account holder that includes more than one billing cycle where the prior billing statements had not been previously billed to the account holder) can occur to no more than six months for residential and commercial customers who meet certain characteristics.

Based on billing system queries, the Department previously estimated that the full implementation of the settlement associated with the Settled Billing Class Actions would result in refunds and credits of approximately \$67 million. As of May 2020, the Department had issued refunds of \$107 million, of which \$13.2 million was refunded from the Water System, \$66.5 million was refunded from the Power System, and \$27.3 million was related to non-Department charges, including City services such as refuse as well as taxes such as utility users’ tax and state energy surcharges. Reserves for refunds accrued in years prior to Fiscal Year 2017–18 have been reduced given the vast majority of refunds were issued in Fiscal Year 2017–18. The Department has also increased its allowance for doubtful accounts so that as inactive uncollectible accounts are identified, the receivables can be reduced to reflect active, collectible account balances. Additionally, over the last five years the Department has invested in additional staff and resources in meter services and field operations, customer billing, customer service and information technology in order to clear backlogs and optimize the billing system.

As of May 2020, the Department had completed the majority of the credits and refunds for accounts associated with the settlement. Accounts remaining to be resolved include those entitled to statutory credits, and those that have been appealed to a court-appointed, independent special master. The largest remaining credits and refunds relate to the amendment to the Department’s “Rules Governing Water and Electric Service” described above. As part of the settlement described above, the amendment to the Department’s “Rules Governing Water and Electric Service” relating to “backbilling” was made retroactive to September 11, 2015. The Department has provided credits and refunds to affected customers relating to the amendment through October 2019 of approximately \$38.4 million, of which approximately \$14.4 million was allocated to the Water System.

The Department also implemented operational changes that will allow consistent compliance with the benchmarks and key performance indicators identified in the settlement.

The remaining class action lawsuits are (a) *Morski v. City of Los Angeles* by, and through, the Los Angeles Department of Water & Power, erroneously sued as the Los Angeles Department of Water & Power, Case No BC 568722 (the “Morski Action”) and (b) *Macias, et al. v. City of Los Angeles* by, and through, the Los Angeles Department of Water and Power, erroneously sued as the Los Angeles Department of Water & Power, Case No. BC594049 (the “Macias Action”). The Morski Action generally alleges that the Department’s practice of tiered billing violates applicable City Ordinances insofar as the Department bases such tiered billing on anything other than regular actual monthly meter reads (“Non-Monthly Tiered Billing”). The Macias Action includes the Non-Monthly Tiered Billing claims, and also alleges (1) “backbilling claims,” (2) “corrected backbilling” and (3) that the Department violated California’s Bane Act by threatening customers with termination of their utility services based on erroneous charges. Finally, the Macias Action broadly alleges claims that overlap with those settled in the Settled Billing Class Actions. The Court granted the Macias Action plaintiffs’ Motion to Certify the Non-Monthly Tiered Billing Class and the Bane Act Class. Certification of the corrected backbilling and backbilling classes are not currently set to be heard. At a November 26, 2019 hearing, the court issued an order staying the Morski Action pending the outcome of the Macias Action. As these are procedural motions only, neither case is at a stage where it is possible to estimate the potential financial exposure to the Department.

In July 2019, the City was sued in a class action lawsuit, *Bradshaw v. City of Los Angeles, et al.*, USDC Central District of California Case No. 2:19-cv-07771 (the “Bradshaw Action”), arising out of alleged issues associated with the settlement in the Jones Action. The Bradshaw Action is brought by a ratepayer and member of the Jones Action settlement. The City filed its motion to dismiss the Bradshaw Action complaint on September 26, 2019. In lieu of responding to the motion, the plaintiff filed a First Amended Complaint on October 17, 2019, thereby mooted the pending motion to dismiss. The First Amended Complaint includes additional factual allegations against the City and other defendants, but does not add any additional claims. The City’s former special counsel, Paul Kiesel and Paul Paradis, were added as defendants. The City filed its motion to dismiss the First Amended Complaint on January 6, 2020. All defendants, including the City, filed motions to dismiss some or all of the claims in the First Amended Complaint, which motions were initially set to be heard on February 3, 2020. The Bradshaw Court continued the hearing to March 16, 2020 and requested additional briefing as to its inherent authority to stay the Bradshaw case pending resolution of the Jones Action. The City filed its brief on February 11, 2020, arguing that the Court did not have inherent authority to stay the case, and requesting that the Court should, in any event, hear its pending motion to dismiss before making any decision to stay the action. On March 23, 2020, the Court stayed the case pending the outcome in the Jones Action based upon the Court’s inherent authority. The Court deferred ruling on the City’s motion to dismiss. The parties are to submit status reports every 90 days beginning on July 1, 2020.

Federal Investigation. Federal investigators are currently conducting an investigation. The Department is cooperating fully with the investigators in connection with their investigation. The Department has been requested by the investigating agency to exercise confidentiality with respect to the investigation. The Department can generally state that the search warrants served by the Federal Bureau of Investigation on the Department and the Office of the City Attorney, in July 2019, relate to issues that have arisen over the class action litigation and settlement regarding the Department’s billing system.

As a result of this investigation, several news articles have recently been published stating that the impetus for the warrants was the settlement of the class action litigation, among other things. Whether that is the case or not, the class-action settlement agreement included multiple layers of independent review of the Department’s decisions on bills, including the right to appeal to a third party and ultimately to the court. In keeping with the City’s twin goals of achieving 100% return to ratepayers of all overcharges and fully remediating the billing system, the Department welcomes a thorough review of the settlement, the payout and the programs developed to identify class members. With respect to the current settlement, United States District Court Judge Dickran M. Tevrizian (retired) submitted a declaration expressing his view as the

mediator in the class action settlement "...that the settlement is entirely valid; and that the settlement terms are fair, reasonable, adequate, and an excellent outcome for all concerned due to the fact that all ratepayers filing claims will receive 100% of any overcharge."

Based on the Department's understanding of the nature of the investigation and the current status of the lawsuits relating to the new billing system, the Department does not believe that the investigation or the billing system related lawsuits will have a material adverse effect on the Department's operations or financial position.

CERTAIN LEGAL MATTERS

The validity of the Series A Bonds and certain other legal matters are subject to the approval of Orrick, Herrington & Sutcliffe LLP, bond counsel to the Department ("Bond Counsel"). See "TAX MATTERS." The form of the opinion to be delivered by Bond Counsel is attached hereto as Appendix E. Bond Counsel undertakes no responsibility for the accuracy, completeness, or fairness of this Official Statement. Certain legal matters in connection with the Series A Bonds will be passed upon for the Department by the Office of the City Attorney of the City and by Kutak Rock LLP, Disclosure Counsel to the Department and for the Underwriters by Hawkins Delafield & Wood LLP. All of the fees of Bond Counsel, Disclosure Counsel and Underwriters' Counsel with regard to the Series A Bonds are contingent upon the issuance and delivery of the Series A Bonds.

TAX MATTERS

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the Department, based on an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 (the "Code") and is exempt from State of California personal income taxes. Bond Counsel is of the further opinion that interest on the Series A Bonds is not a specific preference item for purposes of the federal alternative minimum tax. A complete copy of the proposed form of opinion of Bond Counsel is set forth in Appendix E.

To the extent the issue price of any maturity of the Series A Bonds is less than the amount to be paid at maturity of such Series A Bonds (excluding amounts stated to be interest and payable at least annually over the term of such Series A Bonds), the difference constitutes "original issue discount," the accrual of which, to the extent properly allocable to each Beneficial Owner thereof, is treated as interest on the Series A Bonds which is excluded from gross income for federal income tax purposes and State of California personal income taxes. For this purpose, the issue price of a particular maturity a series of the Series A Bonds is the first price at which a substantial amount of such maturity of the Series A Bonds is sold to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers). The original issue discount with respect to any maturity of the Series A Bonds accrues daily over the term to maturity of such Series A Bonds on the basis of a constant interest rate compounded semiannually (with straight-line interpolations between compounding dates). The accruing original issue discount is added to the adjusted basis of such Series A Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such Series A Bonds. Beneficial Owners of the Series A Bonds should consult their own tax advisors with respect to the tax consequences of ownership of Series A Bonds with original issue discount, including the treatment of Beneficial Owners who do not purchase such Series A Bonds in the original offering to the public at the first price at which a substantial amount of such Series A Bonds is sold to the public.

Series A Bonds purchased, whether at original issuance or otherwise, for an amount higher than their principal amount payable at maturity (or, in some cases, at their earlier call date) (“Premium Bonds”) will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of bonds, like the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax-exempt interest received, and a Beneficial Owner’s basis in a Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such Beneficial Owner. Beneficial Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Series A Bonds. The Department has made certain representations and covenanted to comply with certain restrictions, conditions and requirements designed to ensure that interest on the Series A Bonds will not be included in federal gross income. Inaccuracy of these representations or failure to comply with these covenants may result in interest on the Series A Bonds being included in gross income for federal income tax purposes, possibly from the date of original issuance of the Series A Bonds. The opinion of Bond Counsel assumes the accuracy of these representations and compliance with these covenants. Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken) or events occurring (or not occurring), or any other matters coming to Bond Counsel’s attention after the date of issuance of the Series A Bonds may adversely affect the value of, or the tax status of interest on, the Series A Bonds. Accordingly, the opinion of Bond Counsel is not intended to, and may not, be relied upon in connection with any such actions, events or matters.

Although Bond Counsel is of the opinion that interest on the Series A Bonds is excluded from gross income for federal income tax purposes and is exempt from State of California personal income taxes, the ownership or disposition of, or the accrual or receipt of amounts treated as interest on, the Series A Bonds may otherwise affect a Beneficial Owner’s federal, state or local tax liability. The nature and extent of these other tax consequences depends upon the particular tax status of the Beneficial Owner or the Beneficial Owner’s other items of income or deduction. Bond Counsel expresses no opinion regarding any such other tax consequences.

Current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the Series A Bonds to be subject, directly or indirectly, in whole or in part, to federal income taxation or to be subject to or exempted from State income taxation, or otherwise prevent Beneficial Owners from realizing the full current benefit of the tax status of such interest. The introduction or enactment of any such legislative proposals or clarification of the Code or court decisions may also affect, perhaps significantly, the market price for, or marketability of, the Series A Bonds. Prospective purchasers of the Series A Bonds should consult their own tax advisors regarding the potential impact of any pending or proposed federal or state tax legislation, regulations or litigation, as to which Bond Counsel is expected to express no opinion.

The opinion of Bond Counsel is based on current legal authority, covers certain matters not directly addressed by such authorities, and represents Bond Counsel’s judgment as to the proper treatment of the Series A Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service (“IRS”) or the courts. Furthermore, Bond Counsel cannot give and has not given any opinion or assurance about the future activities of the Department, or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the IRS. Under the Master Resolution the Department has covenanted, however, to comply with the requirements of the Code.

Bond Counsel’s engagement with respect to the Series A Bonds ends with the issuance of the Series A Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend the Department or the

Beneficial Owners regarding the tax-exempt status of the Series A Bonds in the event of an audit examination by the IRS. Under current procedures, parties other than the Department and its appointed counsel, including the Beneficial Owners, would have little, if any, right to participate in the audit examination process. Moreover, because achieving judicial review in connection with an audit examination of tax-exempt bonds is difficult, obtaining an independent review of IRS positions with which the Department legitimately disagrees, may not be practicable. Any action of the IRS, including but not limited to selection of the Series A Bonds for audit, or the course or result of such audit, or an audit of bonds presenting similar tax issues, may affect the market price for, or the marketability of, the Series A Bonds, and may cause the Department or Beneficial Owners to incur significant expense.

RATINGS

Fitch Ratings and Moody's Investors Service Inc. have assigned the Series A Bonds ratings of "AA" and "Aa2," respectively. Such credit ratings reflect only the views of such organizations and any desired explanation of the meaning and significance of such credit ratings, including the methodology used and any outlook thereon, should be obtained from the rating agency furnishing the same, at the following addresses, which are current as of the date of this Official Statement: Fitch Ratings, One State Street Plaza, New York, New York 10004; and Moody's Investors Service Inc., 1 World Trade Center, 250 Greenwich Street, 23rd Floor, New York, New York 10007. Generally, a rating agency bases its credit rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that the ratings will remain in effect for any given period of time or that any such rating will not be revised, either downward or upward, or withdrawn entirely, or a positive, negative or stable outlook announced, by the applicable rating agency, if, in its judgment, circumstances so warrant. The Department undertakes no responsibility to bring to the attention of the Owners of the Series A Bonds any announcement regarding the outlook of any rating agency with respect to the Series A Bonds. Any downward revision or withdrawal or announcement of negative outlook could have an adverse effect on the market price of the Series A Bonds. Maintenance of ratings will require periodic review of current financial data and other updating information by assigning agencies.

CONTINUING DISCLOSURE

The Department will covenant for the benefit of Owners and Beneficial Owners of the Series A Bonds to provide certain financial information and operating data relating to the Water System (the "Annual Report") by not later than 270 days following the end of the Department's Fiscal Year (which Fiscal Year currently ends on June 30), commencing with the Annual Report for the Fiscal Year ended June 30, 2018, and to provide notices of the occurrence of certain enumerated events. The Annual Report and the notices of material events will be filed by the Department with the MSRB through the EMMA system. The specific nature of the information to be contained in the Annual Report and the notices of material events is summarized in "APPENDIX F—FORM OF CONTINUING DISCLOSURE CERTIFICATE." These covenants will be made in order to assist the underwriters for the Series A Bonds in complying with Rule 15c2-12.

UNDERWRITING OF THE SERIES A BONDS

The Department has entered into the Contract of Purchase with Wells Fargo Bank, National Association, as representative of the underwriters listed on the front cover of this Official Statement (the "Underwriters"), pursuant to which the Underwriters have agreed, subject to certain conditions, to purchase the Series A Bonds from the Department at a purchase price of \$263,452,924.08, which represents the aggregate principal amount of the Series A Bonds, plus an original issue premium of \$59,676,006.80, less an underwriters' discount of \$478,082.72. The initial public offering prices of the Series A Bonds may be changed from time to time by the Underwriters. The purchase contract relating to the Series A Bonds

provides that (i) the Underwriters will purchase all of the Series A Bonds if any of the Series A Bonds are purchased and (ii) the obligation to make such purchase is subject to certain terms and conditions set forth in such purchase contract including, among others, the approval of certain legal matters by counsel.

In addition, certain of the Underwriters have entered into distribution agreements with other broker-dealers that are not Underwriters for the distribution of Series A Bonds at the initial public offering prices. Such agreements generally provide that the relevant Underwriter will share a portion of its underwriting compensation or selling concession with the relevant broker-dealer.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage services. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various financial advisory and investment banking services for the Department, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of the Department.

The Underwriters and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

Wells Fargo Securities is the trade name for certain securities-related capital markets and investment banking services of Wells Fargo & Company and its subsidiaries, including Wells Fargo Bank, National Association, which conducts its municipal securities sales, trading and underwriting operations through the Wells Fargo Bank, NA Municipal Finance Group, a separately identifiable department of Wells Fargo Bank, National Association, registered with the Securities and Exchange Commission as a municipal securities dealer pursuant to Section 15B(a) of the Securities Exchange Act of 1934.

MUNICIPAL ADVISOR

Public Resources Advisory Group (the “Municipal Advisor”) has assisted the Department with various matters relating to the planning, structuring and delivery of the Series A Bonds. The Municipal Advisor has not been engaged, nor has it undertaken, to make an independent verification or assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. The Municipal Advisor is an independent municipal advisory firm and is not engaged in the business of underwriting or distributing municipal securities or other public securities. Certain fees of the Municipal Advisor are contingent upon the issuance and delivery of the Series A Bonds.

INDEPENDENT AUDITORS

KPMG LLP, independent auditors, has not been engaged to perform and has not performed, since the date of its report included in the financial statements of the Water System as of June 30, 2019 and 2018, and for the years then ended, included in this Official Statement as Appendix A, any procedures on the

basic financial statements addressed in the report. KPMG LLP also has not performed any procedures relating to this Official Statement.

VERIFICATION OF MATHEMATICAL COMPUTATIONS

Upon delivery of the Series A Bonds, Samuel Klein and Company, Certified Public Accountants, independent certified public accountants (the “Verification Agent”), will deliver a report stating that the firm has verified the mathematical accuracy of certain computations relating to the adequacy of the amounts deposited with the Paying Agent for the Refunded Bonds to pay the redemption price of the Refunded Bonds, and accrued interest thereon, due on July 1, 2020. See “PLAN OF FINANCE—Refunding of Refunded Bonds” herein.

The verification performed by the Verification Agent will be solely based upon data, information and documents provided to the Verification Agent by the Department and the Underwriters. The Verification Agent will restrict its procedures to recalculating the computations provided by the Department and the Underwriters and will not evaluate or examine the assumptions or information used in the computations.

MISCELLANEOUS

The covenants and agreements of the Department for the benefit of the Owners of the Series A Bonds are set forth in the Master Resolution and the Twenty-Ninth Supplemental Resolution, and reference is made to such resolutions for a statement of the rights of the Owners of the Series A Bonds and the covenants and obligations of the Department. All references to the Series A Bonds are qualified in their entirety to the definitive form thereof and the information with respect thereto included in the Master Resolution and the Twenty-Ninth Supplemental Resolution.

This Official Statement is not a contract with the Owners of any of the Series A Bonds.

The summaries of and references to all documents, statutes, reports and other instruments referred to herein do not purport to be complete, comprehensive, or definitive and each such summary and reference is qualified in its entirety by reference to each document, statute, report, or instrument.

Any statements in this Official Statement involving matters of opinion and all estimates, whether or not expressly so stated, are intended as such and not as representations of facts and are not to be construed as representations that they will be realized.

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The Board has authorized the execution and delivery of this Official Statement by its President and the Department's Chief Financial Officer.

BOARD OF WATER AND POWER
COMMISSIONERS OF THE CITY OF
LOS ANGELES

By /s/ Mel Levine
President

DEPARTMENT OF WATER AND POWER OF THE
CITY OF LOS ANGELES

By /s/ Ann M. Santilli
Chief Financial Officer

APPENDIX A
FINANCIAL STATEMENTS

INDEPENDENT AUDITORS' REPORT AND FINANCIAL STATEMENTS

WATER SYSTEM

DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES

Report and Financial Statements and
Required Supplementary Information

JUNE 30, 2019 and JUNE 30, 2018

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**DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES
WATER SYSTEM**

Financial Statements and
Required Supplementary Information

June 30, 2019 and 2018

(With Independent Auditors' Report Thereon)

**DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES
WATER SYSTEM**

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KPMG LLP
Suite 1500
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Los Angeles, CA 90071-2629

Independent Auditors' Report

The Board of Water and Power Commissioners
City of Los Angeles
Department of Water and Power:

Report on the Financial Statements

We have audited the accompanying financial statements of the Department of Water and Power of the City of Los Angeles Water Revenue Fund (Water System), an enterprise fund of the City of Los Angeles, California, as of and for the years ended June 30, 2019 and 2018, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with U.S. generally accepted accounting principles; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Department of Water and Power of the City of Los Angeles Water Revenue Fund as of June 30, 2019 and 2018, and the changes in its net position and its cash flows for the years then ended, in accordance with U.S. generally accepted accounting principles.



Emphasis of Matter

As discussed in note 1(a) to the financial statements, the financial statements present only the Water System and do not purport to, and do not, present fairly the financial position of the City of Los Angeles, California as of June 30, 2019 and 2018, the changes in its financial position, or where applicable, its cash flows for the years then ended in accordance with U.S. generally accepted accounting principles. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the Management's Discussion and Analysis on pages 3–16 and the other required supplementary information on pages 90-95 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

KPMG LLP

Los Angeles, California
December 19, 2019

**DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES
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Management's Discussion and Analysis

June 30, 2019 and 2018

(Unaudited)

The following discussion and analysis of the financial performance of the Department of Water and Power of the City of Los Angeles' Water Revenue Fund (Water System) provides an overview of the financial activities for the fiscal years ended June 30, 2019 and 2018. Descriptions and other details pertaining to the Water System are included in the notes to the financial statements. This discussion and analysis should be read in conjunction with the Water System's financial statements, which begin on page 17.

Using This Financial Report

This annual financial report consists of the Water System's financial statements and required supplementary information and reflects the self-supporting activities of the Water System that are funded primarily through the sale of water to the public it serves.

Statements of Net Position, Statements of Revenues, Expenses, and Changes in Net Position, and Statements of Cash Flows

The financial statements provide an indication of the Water System's financial health. The statements of net position include all of the Water System's assets, deferred outflows, liabilities, deferred inflows, and net position using the accrual basis of accounting, as well as an indication about which assets can be utilized for general purposes, and which assets are restricted as a result of bond covenants and other commitments as of June 30, 2019 and 2018. The statements of revenues, expenses, and changes in net position report all of the revenues and expenses during the time periods indicated. The statements of cash flows report the cash provided and used by operating activities, noncapital financing activities, capital and related financing activities, and investing activities for the years ended June 30, 2019 and 2018.

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The following tables summarize the financial condition and changes in net position of the Water System as of and for the fiscal years ended June 30, 2019, 2018, and 2017:

**Table 1 – Condensed Schedule of Assets, Deferred Outflows, Liabilities,
Deferred Inflows, and Net Position**

(Amounts in millions)

		June 30	
	2019	2018	2017
Assets and Deferred Outflows			
Utility plant, net	\$ 8,437	8,033	7,554
Investments	52	51	50
Other noncurrent assets	650	766	1,195
Current assets	1,090	920	973
Deferred outflows	319	388	527
Total assets and deferred outflows	\$ 10,548	10,158	10,299
Net Position			
Net position:			
Net investment in capital assets	\$ 2,408	2,359	2,367
Restricted	112	102	413
Unrestricted	665	557	356
Total net position	3,185	3,018	3,136
Liabilities and Deferred Inflows			
Long-term debt, net of current portion	6,030	5,683	5,468
Other long-term liabilities	487	636	731
Current liabilities	637	594	831
Deferred inflows	209	227	133
Total liabilities and deferred inflows	7,363	7,140	7,163
Total net position, liabilities, and deferred inflows	\$ 10,548	10,158	10,299

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Table 2 – Condensed Schedule of Revenues, Expenses, and Changes in Net Position

(Amounts in millions)

	Year ended June 30		
	2019	2018	2017
Operating revenues:			
Residential	\$ 515	510	450
Multiple-dwelling units	396	352	339
Commercial and industrial	262	255	265
Other	82	77	78
Uncollectible accounts	(2)	(4)	(13)
Total operating revenues	1,253	1,190	1,119
Operating expenses:			
Purchased water	\$ (155)	(185)	(195)
Maintenance and other operating expenses	(612)	(501)	(506)
Depreciation and amortization	(177)	(165)	(157)
Total operating expenses	(944)	(851)	(858)
Operating income	309	339	261
Nonoperating revenues (expense):			
Investment income	27	5	3
Federal bond subsidies	17	17	17
Other nonoperating revenues, net	(4)	3	15
Debt expense, net	(208)	(197)	(187)
Total nonoperating expense, net	(168)	(172)	(152)
Income before capital contributions	141	167	109
Capital contributions	26	33	31
Increase in net position	167	200	140
Beginning balance of net position	3,018	3,136	2,996
Cumulative effect of change in accounting for OPEB		(318)	—
Ending balance of net position	\$ 3,185	3,018	3,136

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Assets

Utility Plant

The Water System utility plant assets fall into five major categories: source of water supply, pumping, purification, distribution, and general (water infrastructure). Each category of assets is important for providing water services and has a specific purpose. During fiscal years 2019 and 2018, the Water System's net utility plant increased \$404 million and \$479 million, respectively. Net utility plant consists of significant investments in water infrastructure less accumulated depreciation.

During fiscal year 2019, utility plant additions totaled \$630 million. Approximately, \$359 million of the \$630 million in additions were construction work in progress (CWIP) expenditures and the balance, \$271 million, comprises direct additions by utility plant categories. Approximately, \$248 million in CWIP projects were transferred from CWIP to plant accounts. Major CWIP additions/expenditures during the year included \$39 million for mainline replacement program, \$32 million for Headworks West reservoir to replace Ivanhoe and Silver Lake reservoirs, \$19 million for LA Reservoir Ultraviolet Light Treatment plant formerly Granada Hills reservoir, \$19 million to replace pipes at Foothill trunk line, \$18 million for River Supply Conduit Upper Reach Unit 7, \$18 million for North Hollywood West Wellhead treatment plant, and \$18 million to modify Upper Stone Canyon Reservoir to comply with the Surface Water Treatment Rule (SWTR). Approximately, \$103 million and \$75 million of additions were transferred from CWIP to pumping and distribution plant accounts, respectively. Major projects transferred from CWIP included \$83 million for Neenach Temporary Pump Station and \$37 million for mainline replacement at various water districts.

Direct additions are mostly related to improvements in distribution infrastructure as part of the Water System's reliability program. Many of the Water System's assets were installed between 1920 and 1970, thus the reliability program evaluates water main infrastructure to determine which assets should be replaced first to reduce leaks and the frequency of water service disruptions due to water main breaks.

Approximately, \$156 million of the additions were for improvements to the distribution system. During fiscal year 2019, the Water System invested \$123 million in programs to replace mains, services, reservoirs, tanks, and meters, including continuing replacement of existing meters with lead free meters and fittings in accordance with the Water System's goal to increase the reliability and safety of its distribution system. Additionally, \$5 million went into installing new fire hydrants as ordered by the fire department to provide fire protection for new construction, and \$4 million was invested in improvements to facilities and yards that support water distribution. A combined total of \$12 million was invested in improvements to industrial control systems in the metro area, reservoirs, regulator stations, and facilities to further improve water distribution.

Source of supply additions increased by \$29 million, which is primarily attributable to improvements in Owens Lake efficiency measures to reduce the use of water on regulatory requirements. During fiscal year 2019, the balance of general plant assets increased by \$66 million due to purchases of approximately \$25 million of computers, furniture, equipment, and the development of new applications. Other investments in general plant included \$5 million for improvements to maintenance yards at Mojave and Dry Canyon for buildings, water supply, sewage systems, and paving, \$4 million for replacement of computer/hardware, software, processing systems, net amortization of software, \$4 million in improvements to pumping stations and \$15 million to purification facilities for upgrading the technology of treatment systems.

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The completion of projects for distribution, source of supply, pumping, purification, and general plant resulted in the \$247 million transfer from CWIP to depreciable assets during 2019.

During fiscal year 2019, accumulated depreciation, net of retirements increased \$152 million. The Water System uses the straight-line depreciation method for all assets based on estimated service lives. The increase in accumulated depreciation was due to depreciation recognized on new distribution, source of supply, and general plant assets added during the year.

During fiscal year 2018, utility plant additions totaled \$651 million. Approximately, \$424 million of the \$651 million in additions were CWIP expenditures and the balance, \$227 million, comprises direct additions by utility plant categories, net of fiscal year 2018 retirements and disposals. About \$496 million in CWIP projects were transferred from CWIP to plant accounts. Major CWIP additions/expenditures during the year included \$44 million for Headworks West reservoir to replace Ivanhoe and Silver Lake reservoir, \$35 million for mainline replacement program, \$28 million for LA Reservoir Ultraviolet Light Treatment plant formerly Granada Hills reservoir, \$23 million for Machado Lake Pipeline project, \$19 million to replace pipes at Foothill trunk line, \$18 million for Owens Lake Dust Mitigation, \$17 million for North Hollywood West Wellhead treatment plant, and \$14 million to modify Upper Stone Canyon Reservoir to comply with the SWTR. Approximately \$335 million and \$149 million of additions were transferred from CWIP to source of supply and distribution plant accounts, respectively. Major projects transferred from CWIP included \$263 million for Owens Lake Dust Mitigation Phase 9 & 10, \$72 million for Bull creek extension realignment, \$59 million for Elysian Reservoir water quality improvement project, \$40 million for mainline replacement at various water districts, \$35 million for Lower Franklin Reservoir number 2 floating cover replacement, and \$11 million for North Hollywood Water Recycling project.

Approximately, \$147 million of the direct additions are for improvements to the distribution system. During fiscal year 2018, the Water System invested \$117 million in programs to replace mains, services, regulator stations, and meters, including continuing replacement of existing meters with lead-free meters and fittings in accordance with the Department's goal to increase the reliability and safety of its distribution system. Additionally, \$5 million went into installing new fire hydrants as ordered by the fire department to provide fire protection for new construction, and \$13 million was invested in improvements to facilities and yards that support water distribution. A combined total of about \$12 million was invested in improvements to water reservoirs and tanks, field instrumentations, industrial control systems in the metro area, and tools/equipment for operations facilities to further improve water distribution.

Source of supply additions increased by \$27 million, which is primarily attributable to improvements in Owens Lake efficiency measures improved to reduce unnecessary spending on regulatory requirements and decrease water consumption and replacement or recoating of supply main sag pipes at LA aqueduct system. During fiscal year 2018, the balance of general plant assets increased by \$30 million due to direct additions. The increase was attributable to buildings and improvements of approximately \$16 million for purchase of a building and general facilities improvements such as yard grounds upgrades, security upgrades, elevator upgrades, and circuitry. Other investments in general plant include about \$11 million for fleet purchases, communication/fiber optic equipment, and shop tools. Further investments in general plant include about \$3 million for replacement of computer/hardware, furniture, processing systems, and net amortization of software. Approximately

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\$6 million in similar improvements were made to pumping stations and \$7 million to purification facilities for upgrading the technology of treatment systems.

The completion of projects for distribution, source of supply, purification, and general plant resulted in the \$496 million transfer from CWIP to depreciable assets during 2018.

During fiscal year 2018, accumulated depreciation, net of retirements increased \$163 million. The Water System uses the straight-line depreciation method for all assets based on estimated service lives. The increase in accumulated depreciation was due to depreciation recognized on new distribution, source of supply, and general plant assets added during the year.

Source of water supply assets are the assets that the Department has installed to help ensure an adequate supply of water. The Department has four major sources of water. These include the following:

- Los Angeles Aqueduct and Second Los Angeles Aqueduct supply imported water from the Owens Valley and the Mono Basin
- Local groundwater supply (with pumping rights in the San Fernando, Sylmar, and Central and West Coast Basins)
- Purchased supply from Metropolitan Water District
- Recycled water

All sources of water, except for recycled water, are supplied for potable use, that is, the water from these sources is of drinkable quality. Table 3 below shows the percentage of water delivered from the major sources:

**Table 3 – Sources of Potable Water
Supplied during Fiscal years 2019, 2018, and 2017**

	Fiscal year 2019		Fiscal year 2018		Fiscal year 2017	
	Millions of gallons	Percentage	Millions of gallons	Percentage	Millions of gallons	Percentage
Source:						
Aqueduct	95,756	61%	93,880	57%	69,274	43%
Wells	10,680	7	7,040	5	16,695	10
Purchases	47,726	30	59,792	36	71,593	45
Recycled water	2,447	2	3,249	2	2,616	2
	<u>156,609</u>	<u>100%</u>	<u>163,961</u>	<u>100%</u>	<u>160,178</u>	<u>100%</u>

The Aqueduct provided 61% of the total water supply in fiscal year 2019 compared to 57% in fiscal year 2018.

Water storage during low-demand, cold, or wet periods is essential to provide the capacity needed to supply the extra water needed during warm weather or emergency situations. The Water System's 130 tanks and reservoirs, ranging in size from 10,000 to 60 billion gallons, have a current capacity of approximately 313,049

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acre feet, or 102.15 billion gallons. Nine aqueduct reservoirs provide 96% of the Water System's storage capacity; major and minor distribution reservoirs provide the remaining 4%.

Further information regarding the Water System's utility plant can be found in note 3 to the financial statements.

Other Noncurrent Assets

During fiscal year 2019, other noncurrent assets had a net decrease of \$116 million primarily due to decreases in regulatory assets associated with pension, postemployment benefits (OPEB) and customer care and billing system. Decreases in regulatory assets related to pension and OPEB were due to actual expense being less than actuarially determined contributions and thus the excess was used to amortize these assets as planned. Decreases in regulatory assets for the customer care and billing system of \$30 million were due to a decision made by management to expense the remaining costs related to remediation of the system.

During fiscal year 2018, other noncurrent assets had a net decrease of \$429 million. The decrease is composed of the write off of the net postretirement asset of \$318 million in conjunction with the adoption of Governmental Accounting Standards Board (GASB) Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*, the use of \$265 million in construction funds, and a decrease in regulatory assets associated with pension of \$64 million, offset by an increase in regulatory assets of \$199 million related to the adoption of GASB 75 and a \$19 million increase in other regulatory assets.

Current Assets

During fiscal year 2019, current assets increased \$170 million mostly due to a \$229 million increase in unrestricted cash as a result of increased rates offset by a \$27 million decrease in accounts receivable and a \$32 million decrease in other current assets. The \$32 million decrease on other current assets includes a \$37 million decrease in under recovered costs due to higher year-over-year consumption, a \$15 million decrease in accrued unbilled revenue and accounts payable due to a decrease in unbilled consumption when comparing June 2019 to June 2018, a \$16 million increase in restricted cash due to higher debt payment scheduled for July 2019, and a \$4 million increase in prepayments and supplies.

During fiscal year 2018, current assets decreased \$53 million mostly due to a \$135 million decrease in under recovered costs as a result of higher year-over-year consumption. This decrease was offset by a \$27 million increase in unrestricted cash, a \$15 million increase in restricted cash for debt service purposes due to the July 2018 debt service payment being larger than the July 2017 payment. A \$19 million increase in net accounts receivable, a \$12 million increase in accrued unbilled revenue due to higher estimated consumption, and an aggregate increase in other current assets of \$8 million.

Net Position, Liabilities, and Deferred Inflows

Long-Term Debt

As of June 30, 2019, the Water System's total outstanding long-term debt balance, including the current portion was approximately \$6.14 billion. The increase of \$353 million over the previous year's balance was due to one new debt issuance in FY 2019 totaling \$426 million, \$62 million in issue premiums, \$115 million in loans from the State of California's Department of Water Resources (DWR) and the State of California's State Water

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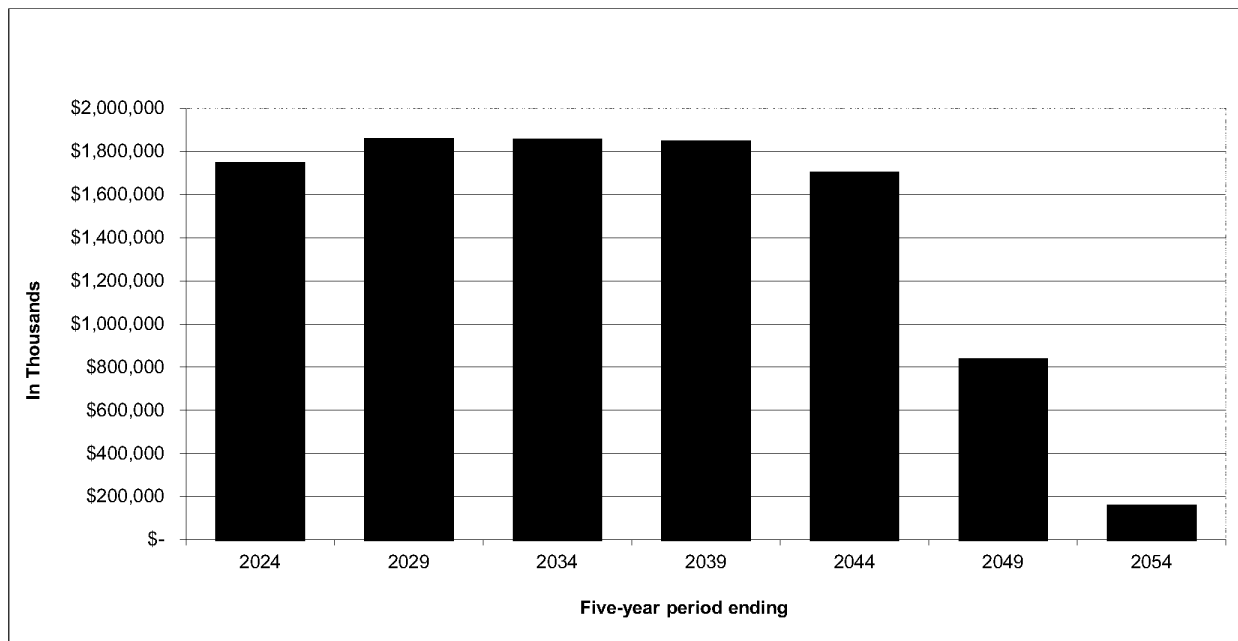
(Unaudited)

Resources Control Board (SWRCB), offset by scheduled maturities of \$81 million, defeasance of \$139 million, and \$30 million in amortization on premiums and discounts. The bond issue was used to defease debt and finance capital improvements.

As of June 30, 2018, the Water System's total outstanding long-term debt balance, including the current portion was approximately \$5.79 billion. This is an increase of \$217 million over the prior year, resulting from the sale of \$231 million in Water System revenue bonds plus \$42 million in bond issue premiums and \$50 million in loans from the SWRCB, offset by scheduled maturities of \$78 million and \$28 million of amortized premiums and discounts.

Scheduled payments of principal, plus scheduled interest as of June 30, 2019, are shown in the chart below:

Chart: Debt Service Requirements



In November 2018, Moody's Investors Service affirmed the Water System's bond rating of Aa2. Also, in June 2019, S&P Global Ratings and Fitch Ratings affirmed the Water System's bond rating of AA+ and AA, respectively.

The Master Bond Resolution allows for parity debt to be issued as long as the Water System maintains a maximum annual adjusted debt service coverage ratio of 1.25. The debt service coverage ratio is computed by taking operating revenue less operating expense excluding depreciation expense to calculate net revenue. Net revenue is then divided by the current debt service. The Water System debt service coverage for fiscal year 2018–2019 was 1.70.

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Additional information regarding the Water System's long-term debt can be found in note 6 to the financial statements.

Other Long-Term Liabilities and Deferred Inflows

During fiscal year 2019, other long-term liabilities had a net decrease of \$149 million primarily due to the \$134 million reduction of the net pension liability and a \$15 million decrease in net other postemployment benefits and death benefits liabilities as a result of actual investment income on plan investments of 8.84% for pension and 9.08% for OPEB exceeding projected income of 7.25% and changes to matching contributions for pension from 7.50% to 7.25%. Actual investment income on plan investments exceeding projected income also caused deferred inflows to decrease.

During fiscal year 2018, other long-term liabilities had a net decrease of \$95 million primarily due to the \$272 million reduction of the net pension liability offset by the recognition of the \$176 million of the net other postemployment benefits and death benefits liabilities that resulted from the adoption of GASB No. 75, and a \$1.5 million increase in accrued workers' compensation claims. Net pension liability decreased and deferred inflows increased from prior year due to actual investment returns being more than the projected 7.25% return. The Water System's pension liability decreased due to the following activity for the years ended June 30, 2019, 2018 and 2017:

Description	Fiscal year ended		
	2019	2018	2017
Beginning, net pension liability	\$ 426,444	698,878	373,024
Pension expense	56,108	78,301	101,415
Employer contributions	(141,496)	(128,576)	(119,639)
New net deferred inflows/outflows	(38,857)	(192,628)	309,737
Recognition of prior deferred inflows/outflows	(9,752)	(29,531)	34,341
Ending, net pension liability	\$ 292,447	426,444	698,878

Assuming actuarial projections are in the line with actual results, the pension liability increases with pension expense and decreases with employer contributions. Differences between expected and actual experience with economic and demographic factors; the effects of changes in assumptions about future economic and demographic factors; differences between actual and projected earnings and plan investments; differences between proportionate share of collective contributions and employer's actual contributions; and the effects of changes in proportion of the collective pension amounts are recorded as deferred outflows and deferred inflows and are amortized over periods ranging from five to six years in fiscal years 2019 and 2018.

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The Water System's net OPEB liability decreased due to the following activity for the years ended June 30, 2019 and 2018. Activity for the year ended June 30, 2017 was not available.

Description	Healthcare	Death Benefit	Total
Beginning net OPEB liability at July 1, 2018	\$ 138,297	37,852	176,149
OPEB expense	12,148	2,843	14,991
Employer contributions	(30,345)	(2,607)	(32,952)
New net deferred inflows/outflows	(8,700)	(565)	(9,265)
Recognition of prior deferred inflows/outflows	11,820	(51)	11,769
Ending net OPEB liability at June 30, 2019	\$ 123,220	37,472	160,692

Description	Healthcare	Death Benefit	Total
Beginning net OPEB liability at July 1, 2017	\$ 204,468	37,542	242,010
OPEB expense	19,000	2,767	21,767
Employer contributions	(27,645)	(2,625)	(30,270)
New net deferred inflows/outflows	(57,527)	168	(57,359)
Recognition of prior deferred inflows/outflows			—
Ending net OPEB liability at June 30, 2018	\$ 138,296	37,852	176,148

Current Liabilities

During fiscal year 2019, current liabilities increased \$42 million primarily due to a \$30 million increase in customer deposits, a \$9 million increase in accrued interest on bonds and a \$4 million increase in current portion of long term-debt as a result of new issues in 2019.

During fiscal year 2018, current liabilities decreased \$237 million primarily from the pay off a \$250 million line of credit used by the Water System temporarily to provide cash for capital expenditures between debt financings and a \$26 million decrease in accounts payable and accrued expenses that did not reoccur in 2018. The decrease of \$26 million in accounts payable and accrued expenses in 2018 was primarily due to \$16 million in expenses accrued at the end of fiscal year 2017 for the Owen's Lake Mitigation project and the Owen's Lake Storm runoff compared to less than a million dollars on those same projects for fiscal year 2018. The decreases were offset by a \$16 million increase in customer deposits, a \$12 million increase in accrued interest due to interest attributed to new bond issuances, a \$4 million increase in secured lending transactions, a \$4 million increase in accrued employee expenses due to timing differences and cost of living increases, a \$3 million increase in the current portion of long-term debt due within one year due to scheduled maturities and a \$1 million increase in the inter-fund payable to the Power System for services provided to the Water System.

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Changes in Net Position

Revenue

The operating revenue of the Water System is generated from selling water to its customers. The current water rate ordinance effective April 15, 2016 has two components, a base rate and adjustable rates, which are referred to as pass-through rates. The pass-through rates are in place to recover the cost of specific expenses. These specific expenses include purchased water, water quality, reclaimed water, demand-side management (or conservation expense), water security, Owens Valley regulatory, and low-income subsidy credits. As a result of the inclusion of pass-through rates in the water rates, revenue can increase or decrease from one year to the next based on the Water System incurring greater or smaller expenses in these categories.

The Water System has five major customer categories. These categories include residential, multiple-dwelling units, commercial, industrial, and other. Table 4 below summarizes the percentage contribution of revenue from each customer category during fiscal years 2019, 2018, and 2017:

Table 4 – Revenue and Percentage of Revenue by Customer Class

(Amounts in thousands)

	Fiscal year 2019		Fiscal year 2018		Fiscal year 2017	
	Revenue	Percentage	Revenue	Percentage	Revenue	Percentage
Type of customer:						
Residential	\$ 515,176	41 %	\$ 509,614	43 %	\$ 450,384	40 %
Multiple-dwelling units	396,035	32	352,123	30	338,623	30
Commercial and industrial	262,276	21	254,734	21	264,690	24
Other	82,100	6	77,576	6	78,487	7
Uncollectible accounts	(2,084)	—	(3,866)	—	(13,637)	(1)
	<u>\$ 1,253,503</u>	<u>100 %</u>	<u>\$ 1,190,181</u>	<u>100 %</u>	<u>\$ 1,118,547</u>	<u>100 %</u>

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Residential and multi-dwelling units customers provided between 70% to 73% of the Water System's revenue for the 2019, 2018, and 2017 fiscal years, representing the largest class of customers. As of June 30, 2019, the Water System had approximately 686,000 customers. As shown in table 5 below, 71% of total customers were in the residential customer class as of June 30, 2019, 2018, and 2017:

Table 5 – Number of Customers and Percentage of Customers by Customer Class

(Numbers in thousands)

	Fiscal year 2019		Fiscal year 2018		Fiscal year 2017	
	Number	Percentage	Number	Percentage	Number	Percentage
Type of customer:						
Residential	491	71 %	489	71 %	487	71 %
Multiple-dwelling units	121	18	121	18	121	18
Commercial	60	9	59	9	59	9
Industrial	6	1	6	1	6	1
Other, including uncollectible accounts	8	1	8	1	7	1
	<u>686</u>	<u>100 %</u>	<u>683</u>	<u>100 %</u>	<u>680</u>	<u>100 %</u>

During fiscal year 2019, operating revenue increased by \$63 million, or 5.3%, from fiscal year 2018, primarily due to an increase in pass through rates as a result of higher capital expenditures primarily for Owen's Lake Mitigation Project and operating and maintenance expenses.

During fiscal year 2018, operating revenue increased by \$72 million, or 6.4%, from fiscal year 2017, due to higher water sales of 9 million hundred cubic feet, or 5%, which resulted in an increase of \$63.9 million in pass-through operating revenue, as compared to 2017. The increase in operating revenue can be attributed to the rebound from conservation after the drought, and economic growth.

Operating Expenses

Purchased water expense is generally the single largest expense the Water System incurs each fiscal year and represents the cost of buying water. During year 2019, the Water System decreased its purchased water costs by \$29 million, or 15.9%, due to a 4% increase in water supplied by the aqueduct, and runoff available from snowfall. The Water System continues to urge customers to make water conservation a way of life and has continued to maintain all water conservation policies and programs, and has continued investing in developing local water supplies through stormwater capture and recycled water to protect the city from future drought. See table 3 on page 8 for a summary of sources of water.

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Management's Discussion and Analysis

June 30, 2019 and 2018

(Unaudited)

Table 6 below summarizes the Water System's operating expenses for fiscal years 2019, 2018, and 2017:

Table 6 – Operating Expenses and Percentage of Expense by Type Expense

(Amounts in thousands)

	Fiscal year 2019		Fiscal year 2018		Fiscal year 2017	
	Expenses	Percentage	Expenses	Percentage	Expenses	Percentage
Type of expense:						
Purchased water	\$ 155,603	16 %	\$ 184,957	22 %	\$ 194,699	23 %
Other operating expenses	434,866	46	348,669	41	354,787	41
Maintenance	177,257	19	152,268	18	151,123	18
Depreciation and amortization	176,634	19	165,290	19	156,809	18
	<u>\$ 944,360</u>	<u>100 %</u>	<u>\$ 851,184</u>	<u>100 %</u>	<u>\$ 857,418</u>	<u>100 %</u>

Fiscal Year 2019

Fiscal year 2019, maintenance and other operating expenses were \$111 million higher as compared to the prior year. The increase is primarily composed of an increase in customer accounting and collecting expenses of \$24 million and administrative and general corporate expense of \$24 million, an increase in source of water supply of \$19 million and an increase in distribution expenses of \$16 million, and an increase in \$4 million in other operating expenses.

Fiscal Year 2018

Fiscal year 2018, maintenance and other operating expenses were \$5 million lower as compared to the prior year. Operating costs among most categories were lower compared to a year ago. Both source of supply and pumping expenses were \$2 million lower, distribution and customer accounting were \$1 million and \$1.7 million lower, respectively. Administrative and general expenses were \$7.3 million lower. These lower expenses were offset by higher costs for purification expenses, or water treatment costs of \$6.1 million due to increased use of aqueduct water. Marketing, taxes, and maintenance costs all increased by \$1.0 million. Purchased water decreased by \$10 million, as compared to the prior year, mainly due to more water being supplied by the aqueduct due to an increase in rainfall in fiscal year 2018 over 2017. The \$8 million increase in depreciation and amortization expense can mainly be attributed to year-over-year increases in depreciation and amortization for regulatory assets (\$1 million), distribution plant (\$4 million), source of supply (\$2 million), and general plant (\$1 million).

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Nonoperating Revenue and Expenses

Fiscal Year 2019

Fiscal year 2019's nonoperating revenue was \$15.3 million higher than in fiscal year 2018. The \$15.3 million increase in other nonoperating income can be primarily attributed to a \$22 million increase in investment income as a result of increased market values of investments.

Debt expenses increased \$11 million year over year. The \$11 million net increase resulted from a \$12 million increase in interest expense due to the issuance of new debt, year-over-year increase in debt amortization expenses of \$3 million and a \$2 million decrease in the allowance for funds used during construction.

Capital contributions decreased by \$7 million due to lower funds received under Prop 84 as a result of improved drought conditions. The majority of the overall balance consists of \$25.8 million at fiscal year ended June 30, 2019 from customers for new service installations, distribution mains, meter installations, fire hydrants, and acreage supply.

Fiscal Year 2018

Fiscal year 2018's nonoperating revenue was \$9.4 million lower than in fiscal year 2017. The \$11.3 million decrease other nonoperating income can be primarily attributed to a onetime insurance reimbursement the Water System had in fiscal year 2017 not reoccurring in 2018. The \$2 million increase in investment income can be mainly attributed to the change in the market values of investments.

Debt expenses increased \$10 million year over year. The \$10 million net increase resulted from a \$14 million increase in interest expense, due to the issuance of new debt, reduced by the year-over-year increases in debt amortization expenses of \$3.2 million and a \$0.3 million in the allowance for funds used during construction.

Capital contributions increased by \$2 million due to funds received from L.A. County for Proposition 84 Drought Implementation Grant. The majority of the overall balance consists of \$25.8 million at fiscal year ended June 30, 2018 from customers for new service installations, distribution mains, meter installations, fire hydrants, and acreage supply.

**DEPARTMENT OF WATER AND POWER
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Statements of Net Position

June 30, 2019 and 2018

(Amounts in thousands)

Assets and Deferred Outflows	2019	2018
Noncurrent assets:		
Utility plant:		
Source of water supply	\$ 2,392,901	2,337,848
Pumping	403,987	297,070
Purification	867,481	835,044
Distribution	5,586,714	5,364,668
General	856,475	793,334
Total	10,107,558	9,627,964
Accumulated depreciation	(3,078,050)	(2,925,891)
Total	7,029,508	6,702,073
Construction work in progress	1,407,309	1,330,975
Total	8,436,817	8,033,048
Investments	51,981	50,558
Cash and cash equivalents – restricted	144,508	141,299
Regulatory assets – other	175,534	195,892
Regulatory asset – pension	150,845	229,451
Regulatory asset – OPEB	179,090	199,489
Total noncurrent assets	9,138,775	8,849,737
Current assets:		
Cash and cash equivalents – unrestricted	573,702	344,773
Cash and cash equivalents – restricted	192,800	176,450
Cash collateral received from securities lending transactions	7,564	7,650
Customer and other accounts receivable, net of \$47,200 and \$61,328 allowance for losses for 2019 and 2018, respectively	74,071	100,785
Under recovered costs	94,426	131,394
Accrued unbilled revenue	94,101	109,112
Materials and supplies	27,613	26,442
Prepayments and other current assets	26,332	23,552
Total current assets	1,090,609	920,158
Total assets	10,229,384	9,769,895
Deferred outflows – debt refunding	22,183	24,252
Deferred outflows – pension	121,972	188,361
Deferred outflows – OPEB	3,774	297
Deferred outflows – pension contributions made after measurement date	134,172	140,957
Deferred outflows – OPEB contributions made after measurement date	36,455	34,017
Total deferred outflows	318,556	387,884
Total assets and deferred outflows	\$ 10,547,940	10,157,779

**DEPARTMENT OF WATER AND POWER
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Statements of Net Position

June 30, 2019 and 2018

(Amounts in thousands)

Net Position, Liabilities, and Deferred Inflows	2019	2018
Net position:		
Net investment in capital assets	\$ 2,408,413	2,359,417
Restricted:		
Debt service	79,673	71,340
Other purposes	32,636	30,636
Unrestricted	664,679	556,859
Total net position	3,185,401	3,018,252
Long-term debt, net of current portion	6,029,872	5,682,565
Other noncurrent liabilities:		
Accrued workers' compensation claims	33,530	33,530
Net pension liability	292,447	426,444
Net OPEB liability	160,692	176,148
Total other noncurrent liabilities	486,669	636,122
Current liabilities:		
Current portion of long-term debt	109,510	103,846
Accounts payable and accrued expenses	89,216	88,451
Due to Power System	2,261	9,846
Accrued employee expenses	70,425	65,839
Accrued interest	122,453	113,069
Obligations under securities lending transactions	7,564	7,650
Customer deposits	235,136	205,474
Total current liabilities	636,565	594,175
Total liabilities	7,153,106	6,912,862
Deferred inflows – debt refunding	13,691	14,115
Deferred inflows – pension	137,114	154,895
Deferred inflows – OPEB	58,628	57,655
Total deferred inflows	209,433	226,665
Total net position, liabilities, and deferred inflows	\$ 10,547,940	10,157,779

See accompanying notes to financial statements.

**DEPARTMENT OF WATER AND POWER
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Statements of Revenues, Expenses, and Changes in Net Position

Years ended June 30, 2019 and 2018

(Amounts in thousands)

	<u>2019</u>	<u>2018</u>
Operating revenues:		
Residential	\$ 515,176	509,614
Multiple-dwelling units	396,035	352,123
Commercial and industrial	262,276	254,734
Other	82,100	77,576
Uncollectible accounts	(2,084)	(3,866)
Total operating revenues	<u>1,253,503</u>	<u>1,190,181</u>
Operating expense:		
Purchased water	155,603	184,957
Maintenance and other operating expenses	612,123	500,937
Depreciation and amortization	176,634	165,290
Total operating expenses	<u>944,360</u>	<u>851,184</u>
Operating income	<u>309,143</u>	<u>338,997</u>
Nonoperating revenues:		
Investment income	26,830	5,171
Federal bond subsidies	17,381	17,307
Other nonoperating income	2,260	8,242
Total nonoperating revenues	<u>46,471</u>	<u>30,720</u>
Other nonoperating expenses	(5,782)	(5,363)
Nonoperating revenues, net	<u>40,689</u>	<u>25,357</u>
Debt expenses:		
Interest on debt	214,472	205,280
Allowance for funds used during construction	(5,979)	(8,044)
Total debt expenses	<u>208,493</u>	<u>197,236</u>
Income before capital contributions	141,339	167,118
Capital contributions	<u>25,810</u>	<u>33,155</u>
Increase in net position	167,149	200,273
Net position:		
Beginning of year	3,018,252	3,136,184
Cumulative effect of change in accounting for postemployment benefits other than pensions, effective July 1, 2017	<u>—</u>	<u>(318,205)</u>
End of year	<u>\$ 3,185,401</u>	<u>3,018,252</u>

See accompanying notes to financial statements.

**DEPARTMENT OF WATER AND POWER
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Statements of Cash Flows

Years ended June 30, 2019 and 2018

(Amounts in thousands)

	2019	2018
Cash flows from operating activities:		
Cash receipts:		
Cash receipts from customers	\$ 1,392,677	1,318,635
Cash receipts from customers for other agency services	608,903	549,443
Cash receipts from interfund services provided	691,571	585,288
Other cash receipts	—	27,839
Cash disbursements:		
Cash payments to employees	(340,716)	(324,057)
Cash payments to suppliers	(287,623)	(259,390)
Cash payments for interfund services used	(808,270)	(775,876)
Cash payments to other agencies for fees collected	(621,149)	(556,203)
Other cash payments	(39,871)	—
Net cash provided by operating activities	595,522	565,679
Cash flows from noncapital financing activities:		
Payments on line of credit for operations	—	(250,000)
Net cash used in noncapital financing activities	—	(250,000)
Cash flows from capital and related financing activities:		
Additions to plant and equipment	(565,707)	(618,001)
Capital contributions	25,810	33,155
Principal payments and maturities on long-term debt	(57,230)	(55,215)
Proceeds from issuance of bonds	348,929	273,403
Proceeds from California State Water Resources Control Board loan	115,257	49,687
Payments of California State Water Resources Control Board loan	(23,356)	(23,088)
Debt interest payments	(234,072)	(219,592)
Federal bond subsidies	17,381	17,307
Net cash used in capital and related financing activities	(372,988)	(542,344)
Cash flows from investing activities:		
Purchases of investment securities	(86,281)	(92,099)
Sales of investment securities	85,257	91,486
Investment income	26,978	5,063
Net cash provided by investing activities	25,954	4,450
Net increase (decrease) in cash and cash equivalents	248,488	(222,215)
Cash and cash equivalents:		
Cash and cash equivalents at beginning of year	662,522	884,737
Cash and cash equivalents at end of year	\$ 911,010	662,522

**DEPARTMENT OF WATER AND POWER
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Statements of Cash Flows

Years ended June 30, 2019 and 2018

(Amounts in thousands)

	<u>2019</u>	<u>2018</u>
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 309,143	338,997
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation and amortization	176,634	165,290
Provision for losses on customer and other receivables	2,084	3,866
Changes in assets and liabilities:		
Customer and other accounts receivable	24,084	(22,756)
Accrued unbilled revenue	15,011	(12,480)
Under recovered costs	36,968	134,837
Due to Power System	(7,585)	1,244
Materials and supplies	(1,171)	(2,389)
Regulatory assets – other	7,345	(31,344)
Regulatory assets – OPEB	20,399	(199,489)
Accounts payable and accrued expenses for operating	5,062	(29,405)
Customer deposits	29,662	16,269
Accrued employee expenses	4,586	3,733
Deferred outflow – pensions and OPEB	67,259	137,298
Regulatory assets – pensions	78,606	63,761
Net pension liability	(133,997)	(272,434)
Net OPEB liability	(15,456)	176,148
Deferred inflows – pensions and OPEB	(16,809)	94,716
Accrued workers' compensation claims and other	(3,523)	1,509
Prepayments and other current assets	(2,780)	(1,692)
Net cash provided by operating activities	\$ <u>595,522</u>	<u>565,679</u>
Supplemental disclosure of noncash capital and relating financing activities:		
During the year ended June 30, 2019, the Water System issued revenue bonds to refund previously issued debt. The \$139 million of proceeds were deposited immediately into a irrevocable trust for the defeasance of \$138.7 million of debt. The net gain on refunding, after the write-off of previously recorded unamortized premiums, resulted in \$0.45 million, which will be amortized over the debt repayment period and recorded as a deferred inflow.		
Accounts payable related to capital expenditures	\$ 28,729	33,025

See accompanying notes to financial statements.

**DEPARTMENT OF WATER AND POWER
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Notes to Financial Statements

June 30, 2019 and 2018

(In thousands)

(1) Summary of Significant Accounting Policies

The City of Los Angeles Department of Water and Power (the Department) exists as a separate proprietary department of the City of Los Angeles (the City) under and by virtue of the City Charter enacted in 1925 and as revised effective July 2000. The Department's Water Revenue Fund (Water System) is responsible for the procurement, quality, and distribution of water for sale in the City. The Water System is operated as an enterprise fund of the City.

(a) Method of Accounting

The accounting records of the Water System are maintained in accordance with U.S. generally accepted accounting principles (GAAP) for governmental entities. The financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting. The Water System is accounted for as an enterprise fund and applies all applicable Governmental Accounting Standards Board (GASB) pronouncements in its accounting and reporting.

The financial statements of the Water System are intended to present the net position, and the changes in net position and cash flows of only that portion of the business-type activities and each major fund of the City that is attributable to the transactions of the Water System. They do not purport to, and do not, present fairly the financial position of the City as of June 30, 2019 and 2018, the changes in its financial position or, where applicable, its cash flows for the years then ended, in conformity with GAAP.

The Water System's rates are determined by the Board of Water and Power Commissioners (the Board) and are subject to review and approval by the Los Angeles City Council. As a regulated enterprise, the Department follows the regulatory accounting criteria set forth in the GASB Codification (GASB 62), which requires that the effects of the rate-making process be recorded in the financial statements. Such effects primarily concern the time at which revenue and expenses are recorded in net position. Accordingly, the Water System records various regulatory assets and liabilities to reflect the Board's actions by deferring expenses and revenue that are recoverable or payable from rates provided in the water rate ordinance. Regulatory liabilities are comprised of over recovered costs and deferred inflows and regulatory assets are comprised of regulatory assets and under recovered costs in the statement of net position. Management believes that the Water System meets the criteria for continued application, and will continue to evaluate its applicability based on changes in the regulatory environment. See note 4.

(b) Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

**DEPARTMENT OF WATER AND POWER
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(In thousands)

(c) Utility Plant

The costs of additions to utility plant and replacements of retired units of property are capitalized. Costs include labor, materials, an allowance for funds used during construction (AFUDC), and allocated indirect charges, such as engineering, supervision, transportation and construction equipment, retirement plan contributions, healthcare costs, and certain administrative and general expenses. The costs of maintenance, repairs, and minor replacements are charged to the appropriate operations and maintenance expense accounts.

(d) Intangibles

The Water System follows GASB Statement No. 51, *Accounting and Financial Reporting for Intangible Assets*, which requires that an intangible asset be recognized in the statement of net position only if it is considered identifiable. Additionally, it establishes a specified-conditions approach to recognize intangible assets that are internally generated. Effectively, outlays associated with the development of such assets are not capitalized until certain criteria are met. Outlays incurred prior to meeting these criteria are expensed as incurred. Intangible assets include land easements, water rights, and computer software and are capitalized and included in general utility plant on the statement of net position.

(e) Impairment of Long-Lived Assets

The Water System follows GASB Statement No. 42, *Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries* (GASB 42). Governments are required to evaluate prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. A capital asset is considered impaired when its service utility has declined significantly and unexpectedly. Under GASB 42, impaired capital assets that will no longer be used by the government should be reported at the lower of carrying value or fair value. Impairment losses on capital assets that will continue to be used by the government should be measured using the method that best reflects the cause of the diminished service utility of the capital asset.

(f) Depreciation and Amortization

Depreciation expense is computed using the straight-line method based on service lives. The Water System uses the composite method of depreciation, and therefore, groups assets into composite groups for purposes of calculating depreciation expense. Estimated service lives range from 5 to 70 years. Amortization expense for computer software is computed using the straight-line method over 5 to 15 years. Depreciation and amortization expense as a percentage of average depreciable utility plant in service was 1.8% for fiscal years ended June 30, 2019 and 2018.

**DEPARTMENT OF WATER AND POWER
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June 30, 2019 and 2018

(In thousands)

(g) Cash and Cash Equivalents

As provided for by the State of California Government Code (the Code), the Water System's cash is deposited with the city treasurer in the City's general investment pool for the purpose of maximizing interest earnings through pooled investment activities. Cash and cash equivalents in the City's general investment pool are reported at fair value on a recurring basis, and changes in unrealized gains and losses are recorded in the statements of revenues, expenses, and changes in net position. Interest earned on such pooled investments is allocated to the participating funds based on each fund's average daily cash balance during the allocation period. The city treasurer invests available funds of the City and its independent operating departments on a combined basis. The Water System classifies all cash and cash equivalents that are restricted either by creditors, the Board, or by law as restricted cash and cash equivalents on the statement of net position. The Water System considers its portion of pooled investments in the City's pool to be cash and cash equivalents and the unspent construction funds as long-term restricted cash and cash equivalents.

At June 30, 2019 and 2018, restricted cash and cash equivalents include the following (amounts in thousands):

	June 30	
	2019	2018
Bond redemption and interest funds	\$ 185,914	170,564
Other restricted funds	6,886	5,886
Cash and cash equivalents – current portion	192,800	176,450
Self-insurance fund	25,750	24,750
Bond redemption funds	16,272	13,905
Construction funds	102,486	102,644
Cash and cash equivalents – noncurrent	144,508	141,299
Total restricted cash and cash equivalents	\$ 337,308	317,749

(h) Customer and Other Accounts Receivable and Allowance for Doubtful Accounts

The Water System's accounts receivables consist of customer and other receivables. The receivables are reported net of allowance for losses. Customer account receivables result from the sale of water to city residents. Other receivables consist of billings to customers, federal, state, and local governments for work performed to improve or enhance water distribution, water sales to other utilities, and other miscellaneous receivables.

**DEPARTMENT OF WATER AND POWER
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(In thousands)

Water System's residential customers are billed bimonthly, and customers on monthly billings include commercial, governmental, and industrial. The Water System records an estimate for uncollectible accounts for its receivables based on an analysis of the balances in the Water System's accounts receivable aging reports. These estimates are reviewed and adjusted annually. The Water System records bad debt for its estimated uncollectible accounts related to water customer and noncustomer billings as a reduction in the Water operating revenue.

At June 30, 2019 and 2018, customer and other accounts receivable include the following (amounts in thousands):

	June 30	
	2019	2018
Customer accounts receivable	\$ 117,600	146,284
Allowance for losses	(45,000)	(58,528)
Customer accounts receivable	72,600	87,756
Customer accounts receivable, other	3,671	15,829
Allowance for losses, other	(2,200)	(2,800)
Customer accounts receivable other	1,471	13,029
Total customer accounts receivable	\$ 74,071	100,785

(i) Materials and Supplies

Materials and supplies are recorded at average cost.

(j) Accrued Unbilled Revenue

Accrued unbilled revenue is the receivable for estimated water sales during the period at the appropriate rates for which service has been provided but the customer has not been billed.

**DEPARTMENT OF WATER AND POWER
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Notes to Financial Statements

June 30, 2019 and 2018

(In thousands)

(k) Investments

The Water System follows GASB Statement No. 72, *Fair Value Measurement and Application*, which addresses accounting and fair value reporting issues related to fair value measurements by clarifying the definition of fair value, establishing general principles for measuring fair value, providing additional fair value application guidance, and enhancing disclosures about fair value measurements. This statement established a three-level hierarchy of inputs to valuation techniques used to measure fair value. The Water System's investments consist of investments held in the Water Expense Stabilization Fund to stabilize water rates. Such investments include U.S. government and governmental agency securities. Investments are reported at fair value on a recurring basis, and changes in unrealized gains and losses are recorded in the statements of revenue, expenses, and changes in net position. The stated fair value of investments is generally based on published market prices or quotations from major investment dealers. See note 5.

(l) Accrued Employee Expenses

Accrued employee expenses include accrued payroll and an estimated liability for vacation leave, sick leave, and compensatory time, which are accrued when employees earn the rights to the benefits. Below is a schedule of accrued employee expenses as of June 30, 2019 and 2018 (amounts in thousands):

	June 30	
	2019	2018
Type of expense:		
Accrued payroll	\$ 16,538	15,160
Accrued vacation	36,707	34,874
Accrued sick time	7,249	6,795
Compensatory time	9,931	9,010
Total	\$ 70,425	65,839

(m) Debt Expenses

Debt premiums and discounts are capitalized and amortized to debt expense using the effective-interest method over the lives of the related debt issues. Gains and losses on refunding related to bonds redeemed by proceeds from the issuance of new bonds are reported as deferred inflows or outflows of resources and amortized to interest expense using the effective-interest method over the shorter of the life of the new bonds or the remaining term of the bonds refunded. Debt issuance costs are expensed in the year incurred.

(n) Accrued Workers' Compensation Claims

Liabilities for unpaid workers' compensation claims are recorded at their net present value. See note 9.

**DEPARTMENT OF WATER AND POWER
OF THE CITY OF LOS ANGELES
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Notes to Financial Statements

June 30, 2019 and 2018

(In thousands)

(o) Customer Deposits

Customer deposits represent deposits collected from customers upon opening new accounts. These deposits are obtained when the customer does not have a previously established credit history with the Department. Original deposits plus interest are paid to the customer once a satisfactory payment history is maintained, generally after one to three years.

The Water System is responsible for collection, maintenance, and refunding of these deposits for all Department customers, including those of the Department's Power Revenue Fund (Power System). As such, the Water System's statements of net position include a deposit liability of \$235 million and \$205 million as of June 30, 2019 and 2018, respectively, for all customer deposits collected.

(p) Revenue

The Water System's rates are established by a rate ordinance set by the Board based on its powers and duties established in Section 676 of the City Charter. The Water System sells water to other city departments at rates provided in the ordinance. The Water System recognizes water costs in the period incurred and accrues for estimated water sold but not yet billed.

Revenue consists of billings to customers for water consumption at rates specified in the water rate ordinance. These rates include cost adjustment factors that provide the Water System with full recovery of water supply costs; water quality improvement expenditures and water security costs; base rate revenue based upon established revenue targets published for each major customer class; Owens Valley regulatory costs; lifeline and low-income customer adjustments; water infrastructure costs; and funds maintained to cover costs in the event of unforeseen events impacting water service delivery. Management estimates these costs biannually for a 12-month prospective period to establish the cost recovery component of customer billings, and any difference between billed and actual costs is adjusted in subsequent billings. This difference is reflected as \$94 million and \$131 million of under recovered costs in the accompanying statements of net position as of June 30, 2019 and 2018, respectively.

(q) Current Rate Ordinance

The current water rate ordinance has been in effect since April 15, 2016, and covers a five-year period. The water rates are set for each customer class based upon a completed formal marginal cost of service study, which is common industry practice.

For single-family residential customers, water budgets are utilized to design an expanded four-tier rate structure. The rate structure provides water conservation signals with tier thresholds set based on indoor and outdoor water budgets, which encourage conservation. Tier 1 provides 800 cubic feet for basic indoor water needs. Tier 2 provides water levels for efficient outdoor native landscaping, Tier 3 provide water levels, which represent much less efficient outdoor irrigation and nondrought-tolerant landscaping, and Tier 4 represents excessive water usage. Tiers 2 and 3 allotments also vary based on temperature zone and lot size.

**DEPARTMENT OF WATER AND POWER
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Notes to Financial Statements

June 30, 2019 and 2018

(In thousands)

Single-family residential rates are developed to recover the revenue requirement associated with providing service to this class while recognizing the increasing cost of providing water at higher levels of usage. The major differentiating amounts between tier rates are water supply costs, peak pumping, and storage costs. The Tier 1 rate represents indoor basic needs met by the least expensive sources of water supply; the Tier 2 rate covers efficient outdoor water use and reflects water supplies, which include some expensive sources of water; the Tier 3 rate is for above-average outdoor use, which may require more expensive sources of water supply; and the Tier 4 rate is for excessive use and may include the most costly sources of water supply.

The two-tier structure of the multifamily customer class has been maintained from prior rate ordinances. Multifamily tier thresholds are set based on prior winter usage characteristics for each customer. Water allotments still provide incentives for additional conservation with Tier 1 allotment reductions applied in the second (93%), third (88%), fourth (88%), and fifth (88%) year of the five-year rate action.

The major differentiating amounts between the two-tier structure of multifamily rates are water supply costs, peak pumping, and storage costs. Tier 1 rates reflect water supplies, which include the less expensive sources of water, and the Tier 2 rate includes the higher costs of water supply sources.

The two-tier structure of the commercial and industrial customer class has been maintained from prior rate ordinances. High and Low Season Tier thresholds are also set based on prior winter usage characteristics for each customer. Water budgets still provide incentives for additional conservation with Low Season Tier 1 allotments set at 100% of prior winter usage and the High Season Tier 1 allotment set at 105% of prior winter usage.

Like the multifamily customer class, the major differentiating costs between the two-tier structure of the commercial and Industrial rates are water supply costs, peak pumping costs, and storage costs. The Tier 1 rate reflects water supplies, which include the less expensive sources of water and the Tier 2 rate includes the higher costs of water supply sources.

The rates still reflect equity consideration for water-intensive businesses, and other customers having high seasonal variation in their water usage. Fixed monthly service availability charges apply only to private fire service.

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The Water System's rate ordinance contains a Water Supply Cost Adjustment Factor, a Water Quality Improvement Adjustment Factor, a Base Rate Revenue Target Adjustment Factor, an Owens Valley Regulatory Adjustment Factor, a Low-Income Subsidy Adjustment Factor, a Water Infrastructure Adjustment Factor, and a Water Expense Stabilization Factor. These factors are recovered by direct adjustments to customers' bills. The Water Supply Cost Adjustment Factor recovers the cost of Los Angeles Aqueduct water, purchased water, including water purchased from the Metropolitan Water District, groundwater, water conservation, recycled water, and any additional water supply source expenses. The Water Quality Improvement Factor recovers expenditures to equalize water quality throughout the City, to meet state and federal water quality standards, and to provide security for water supply, storage, and conveyance infrastructure and related facilities. The Base Rate Revenue Target Adjustment recovers any shortage in revenue from base rates or credits back any excess collection of revenue from base rates due to variation in water sales from established revenue targets published for each major customer class. The Owens Valley Regulatory Adjustment factor recovers expenditures for the Owens Lake Dust Mitigation Program, the Lower Owens River Project, and the Owens Lake Master Project. The Low-Income Subsidy Adjustment Factor recovers the cost of credits provided to lifeline and low-income customers. The Water Infrastructure Adjustment Factor recovers capital costs associated specifically with infrastructure investments to maintain and improve the reliability of the water distribution system, and the Water Expense Stabilization Factor recovers funds in order to stabilize rates in the event of unforeseen events impacting water service delivery and also the expense for legal and courts costs or any judgment or settlement.

Operating revenue is revenue generally derived from activities that are billable in accordance with the water rate ordinance established by the City of Los Angeles. Other types of revenue are generally considered nonoperating.

(r) Capital Contributions

Capital contributions and other grants received by the Water System are for constructing utility plant and other activities and are recognized when all applicable eligibility requirements, including time requirements, are met.

(s) Allowance for Funds Used during Construction (AFUDC)

An AFUDC charge represents the cost of borrowed funds used for the construction of utility plant. Capitalized AFUDC is included as part of the cost of utility plant and as a reduction of interest expenses. As of June 30, 2019 and 2018, the average AFUDC rates used by the Water System were 3.8% and 3.6%, respectively.

(t) Use of Restricted and Unrestricted Resources

The Water System's policy is to use unrestricted resources prior to restricted resources to meet expenses to the extent that it is prudent from an operational perspective. Once it is not prudent, restricted resources will be utilized to meet intended obligations.

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(u) Pensions

Eligible employees of the Water System are members of the Water and Power Employees' Retirement Plan (the Plan), which is a single employer defined-benefit pension plan. The Water System's policy is to fund all the required actuarially determined contributions; such costs to be funded are determined annually as of July 1 by an actuary utilized by the Plan. The assets of the Plan are accumulated and reported at fair value in a special trust fund of the City and, therefore, are not reported in the accompanying financial statements.

The Water System recognizes a net pension liability, which represents the Water System's proportionate share of the excess of the total pension liability over the fiduciary net position of the pension plan as reflected in the financial statements of the Plan. The net pension liability is measured as of the Water System's prior fiscal year-end. Changes in the net pension liability are recorded, in the period incurred, as pension expense or as deferred inflows of resources or deferred outflows of resources depending on the nature of the change. The changes in net pension liability that are recorded as deferred inflows of resources or deferred outflows of resources (that arise from changes in actuarial assumptions or other inputs and differences between expected or actual experience) are amortized over the weighted average remaining service life of all participants in the respective pension plan and are recorded as a component of pension expense beginning with the period in which they are incurred. Projected earnings on pension investments are recognized as a component of pension expense. Differences between projected and actual investment earnings are reported as deferred inflows of resources or deferred outflows of resources and amortized as a component of pension expense on a closed basis over a five-year period beginning with the period in which the difference occurred. Each subsequent year will incorporate an additional closed basis five-year period of recognition. Contributions made after the measurement date are recorded as deferred outflows and a reduction to the pension regulatory asset.

For purposes of measuring the net pension liability and deferred outflows/inflows or resources relating to pensions and pension expense, information about the fiduciary net position of the Water System's pension plan and additions to/deductions from the Plan's fiduciary net position has been determined on the same basis as they are reported by the Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms.

(v) Other Postemployment Plan Benefits

Eligible employees of the Water System are members of the Water and Power Employees' Retirement Plan, which comprises a single-employer defined-benefit plan and a system of benefits. In addition to pension benefits, retirees can also receive other postemployment benefits (OPEB), mainly, healthcare, and death benefits. The level of benefits is determined based on their years of civil service, age, and which pension tier they belong to.

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The Water System's policy is to fund all the required actuarially determined contributions; such costs to be funded are determined annually as of July 1 by an actuary utilized by the Plan. The assets of the Plan are accumulated and reported at fair value in a special trust fund of the City and, therefore, are not reported in the accompanying financial statements.

The Water System recognizes a net OPEB liability, which represents the Water System's proportionate share of the excess of the total OPEB liability over the fiduciary net position of the Plan as reflected in the financial statements of the Plan. The net OPEB liability is measured as of the Water System's prior fiscal year-end. Changes in the net OPEB liability are recorded, in the period incurred, as OPEB expense or as deferred inflows of resources or deferred outflows of resources depending on the nature of the change. The changes in net OPEB liability that are recorded as deferred inflows of resources or deferred outflows of resources (that arise from changes in actuarial assumptions or other inputs and differences between expected or actual experience) are amortized over the weighted average remaining service life of all participants in the respective pension plan and are recorded as a component of OPEB expense beginning with the period in which they are incurred. Projected earnings on pension investments are recognized as a component of OPEB expense. Differences between projected and actual investment earnings are reported as deferred inflows of resources or deferred outflows of resources and amortized as a component of OPEB expense on a closed basis over a five-year period beginning with the period in which the difference occurred. Each subsequent year will incorporate an additional closed basis five-year period of recognition. Contributions made after the measurement date are recorded as deferred outflows and a reduction to the OPEB regulatory asset.

For purposes of measuring the net OPEB liability and deferred outflows/inflows or resources relating to OPEB and OPEB expense, information about the fiduciary net position of the Water System's Plan and additions to/deductions from the plan's fiduciary net position has been determined on the same basis as they are reported by the Plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit's terms.

(2) Recent Accounting Pronouncements

(a) GASB Statement No. 75

The Water System adopted the provisions of Statement No. 75 in fiscal year 2018. This statement replaced the requirements of GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, as amended, and establishes standards for recognizing and measuring liabilities, deferred outflows of resources, deferred inflows of resources, and expenses. Accordingly, the cumulative effect of the impact on net position was \$(318,205).

(b) GASB Statement No. 83

In November 2016, the GASB issued Statement No. 83, *Accounting and Financial Reporting for Certain Asset Retirement Obligations*. This statement addresses accounting and financial reporting for certain asset retirement obligations (AROs). An ARO is a legally enforceable liability associated with the retirement of a tangible asset. A government that has legal obligations to perform future asset

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retirement activities related to its tangible capital assets should recognize a liability based on the guidance of this statement. The Water System adopted the provisions of Statement No.83 in fiscal year 2019; however, the impact was not material to the Water System's financial statements.

(c) GASB Statement No. 84

In January 2017, the GASB issued Statement No. 84, *Fiduciary Activities*, effective for the Water System's fiscal year beginning July 1, 2019. The purpose of this statement is to enhance consistency in reporting by identifying fiduciary activities and how they should be reported. Management has not determined the impact of GASB Statement No. 84 on the Water System's financial statements.

(d) GASB Statement No. 87

In June 2017, the GASB issued Statement No. 87, *Leases*, effective for the Water System's fiscal year beginning July 1, 2020. The purpose of this statement is to enhance consistency in accounting and financial reporting by providing a methodology for identifying and reporting lease arrangements and obligations. Management has not yet determined the impact of GASB Statement No. 87 on the Water System's financial statements.

(e) GASB Statement No. 88

In March 2018, the GASB issued Statement No. 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placement*. The Water System adopted the provisions of Statement No.88 in fiscal year 2019 retroactive to July 1, 2017. The purpose of this statement is to improve the information that is disclosed in the notes to government financial statements related to debt, including direct borrowings and direct placements. It also clarifies which liabilities governments should include when disclosing information related to debt. The Water System's net position was not restated as a result of adoption of this standard. See additional required disclosures at note 6.

(f) GASB Statement No. 89

In June 2018, the GASB issued Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*, effective for the Water System's fiscal year beginning July 1, 2019. The objectives of this statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing and (2) to simplify accounting for interest costs incurred before the end of a construction period. Management has not yet determined the impact that this standard will have on the Water System's financial statements.

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(3) Utility Plant

The Water System had the following activity in utility plant during fiscal year 2019 (amounts in thousands):

	Balance, June 30, 2018	Additions	Retirements and disposals	Transfers	Balance, June 30, 2019
Nondepreciable utility plant:					
Land and land rights	\$ 172,421	21	(9,800)	2,713	165,355
Construction work in progress	1,330,975	359,401	(32,799)	(250,268)	1,407,309
Total nondepreciable utility plant	1,503,396	359,422	(42,599)	(247,555)	1,572,664
Depreciable utility plant:					
Source of water supply	2,222,846	29,210	—	25,827	2,277,883
Pumping	294,972	4,286	—	102,631	401,889
Purification	826,166	15,564	—	16,868	858,598
Distribution	5,334,796	155,773	(9,031)	75,304	5,556,842
General	776,763	66,086	(22,783)	26,925	846,991
Total depreciable utility plant	9,455,543	270,919	(31,814)	247,555	9,942,203
Accumulated depreciation:					
Source of water supply	(438,115)	(43,698)	—	—	(481,813)
Pumping	(139,543)	(5,769)	—	—	(145,312)
Purification	(241,559)	(14,165)	—	—	(255,724)
Distribution	(1,697,294)	(82,442)	9,031	—	(1,770,705)
General	(409,380)	(28,470)	13,354	—	(424,496)
Total accumulated depreciation	(2,925,891)	(174,544)	22,385	—	(3,078,050)
Total utility plant, net	\$ 8,033,048	455,797	(52,028)	—	8,436,817

Depreciation and amortization expense during fiscal year 2019 was \$176.6 million.

Land and land rights are included in the balance sheet as utility plant assets in their functional category.

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The Water System had the following activity in utility plant during fiscal year 2018 (amounts in thousands):

	<u>Balance, June 30, 2017</u>	<u>Additions</u>	<u>Retirements and disposals</u>	<u>Transfers</u>	<u>Balance, June 30, 2018</u>
Nondepreciable utility plant:					
Land and land rights	\$ 171,766	655	—	—	172,421
Construction work in progress	1,402,561	424,134	—	(495,720)	1,330,975
Total nondepreciable utility plant	1,574,327	424,789	—	(495,720)	1,503,396
Depreciable utility plant:					
Source of water supply	1,860,698	26,705	—	335,443	2,222,846
Pumping	288,486	6,483	—	3	294,972
Purification	809,401	7,512	—	9,253	826,166
Distribution	5,039,748	146,792	(336)	148,592	5,334,796
General	744,057	39,682	(9,405)	2,429	776,763
Total depreciable utility plant	8,742,390	227,174	(9,741)	495,720	9,455,543
Accumulated depreciation:					
Source of water supply	(399,480)	(38,635)	—	—	(438,115)
Pumping	(134,155)	(5,388)	—	—	(139,543)
Purification	(227,724)	(13,835)	—	—	(241,559)
Distribution	(1,620,105)	(77,525)	336	—	(1,697,294)
General	(381,247)	(28,133)	—	—	(409,380)
Total accumulated depreciation	(2,762,711)	(163,516)	336	—	(2,925,891)
Total utility plant, net	\$ 7,554,006	488,447	(9,405)	—	8,033,048

Depreciation and amortization expense during fiscal year 2018 was \$165.3 million.

Land and land rights are included in the balance sheet as utility plant assets in their functional category.

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(4) Regulatory Assets

Regulatory assets are created by the actions of the Board of Water and Power Commissions by deferring certain expenses that are recoverable by future rate charges in accordance with the current rate ordinances, so as to more evenly match the recognition of revenue and expenses with the water rates charged to retail customers.

Below is a summary of the Water System's regulatory assets:

Water System Regulatory Assets Summary FY 18–19:

Description	June 30, 2018	Additions	Reductions	June 30, 2019
Assets:				
(a) Regulatory assets – water conservation rebates	\$ 116,375	10,254	(10,987)	115,642
(b) Regulatory assets – stormwater capture program	34,548	11,937	(785)	45,700
(c) Regulatory assets – customer care and billing system	44,969	—	(30,777)	14,192
Regulatory assets – other	195,892	22,191	(42,549)	175,534
(d) Regulatory assets – Pension	229,451	—	(78,606)	150,845
(e) Regulatory assets – OPEB	199,489	34,253	(54,652)	179,090
(f) Under recovered costs	131,394	94,426	(131,394)	94,426
Total	\$ 756,226	150,870	(307,201)	599,895

Description	June 30, 2017	Additions	Reductions	June 30, 2018
Assets:				
(a) Regulatory assets – water conservation rebates	\$ 113,498	13,005	(10,128)	116,375
(b) Regulatory assets – stormwater capture program	35,489	—	(941)	34,548
(c) Regulatory assets – customer care and billing system	27,813	18,495	(1,339)	44,969
Regulatory assets – other	176,800	31,500	(12,408)	195,892
(d) Regulatory assets – Pension	293,212	—	(63,761)	229,451
(e) Regulatory assets – OPEB	—	211,740	(12,251)	199,489
(f) Under recovered costs	266,231	131,394	(266,231)	131,394
Total	\$ 736,243	374,634	(354,651)	756,226

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(a) Regulatory Assets – Water Conservation Rebates

Water conservation is an integral part of the water resources management efforts and is a key element of maintaining a sustainable supply of water for the City. The Water System provides customers with 26 water conservation programs that are designed to reduce indoor and outdoor water usage. Initially the programs included low-flow showerheads and incentives to customers who purchase the high-efficiency toilets and high-efficiency clothes washing machines in an effort to reduce water use. In 2015, the program was expanded to include outdoor water savings through a turf reduction program to encourage replacing water-guzzling grass with low-water use shrubs and permeable walkways.

As provided in the Water System's rate structure, beginning June 2011, customers' bills include a charge, related to water conservation program payments to be collected over the useful life of the program, which ranges from 5 to 20 years. As rates are established at a level sufficient to recover all such costs, the Water System recorded as a regulatory asset.

(b) Regulatory Assets – Watershed Management Stormwater Capture Program

The goal of the Stormwater Capture Program is to capture stormwater for recharging the basin with water that would otherwise run off to the ocean and, thus, be lost as a usable source to customers. Regulatory assets related to the Watershed Management Programs include investing in dams, reservoirs, and spreading grounds owned by other agencies, but the water collected benefits Water System customers.

As provided in the Water System's rate structure, beginning August 2013, customers' bills include a charge, related to payments made related to the Stormwater Capture Program to be collected over a period of at least 30 years. As rates are established at a level sufficient to recover all such costs, the Water System recorded these costs as a regulatory asset.

(c) Regulatory Assets – Customer Care and Billing System

In 2013, the Water System implemented the customer care and billing system (CC&B). The implementation of the system required significant investment in training of the Water System's employees.

As provided in the Water System's rate structure, beginning January 2014, customers' bills include a charge related to training for the CC&B to be collected over a 10-year period. As rates are established at a level sufficient to recover all such costs, the Water System recorded a regulatory asset.

During fiscal year 2019, the Water System's management determined that certain costs originally capitalized as a regulatory asset were not expected to move forward for regulatory asset rate recovery. As a result, \$29,538 was removed from regulatory assets and reclassified as operating expenses or general plant assets based on the expenditure. Remaining costs in CC&B regulatory asset relate to training costs on the system and will be recovered through future rates.

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(d) Regulatory Assets – Pension

In connection with the recognition of the net pension liability under GASB Statement No. 68 *Accounting and Financial Reporting for Pensions*, an amendment of GASB Statement No. 27, the Water System established a regulatory asset in the amount of \$745,447 equal to the net pension liability reported at July 1, 2013. The pension regulatory asset is expected to be amortized over a period not to exceed 15 years. Amortization of the regulatory asset is the difference between actuarially determined contributions and actual pension expense. Amortization of the regulatory asset is the difference between actuarially determined contributions and actual pension expense and totaled \$78,606 and \$63,761 for the years ended June 30, 2019 and 2018, respectively.

(e) Regulatory Assets – OPEB

In connection with the recognition of the net OPEB liability under GASB Statement No. 75, the Water System established a regulatory asset in the amount of \$211,740 equal to the net OPEB liability reported at July 1, 2017 less contributions after the measurement date. The OPEB regulatory asset is expected to be amortized over a period not to exceed 15 years. Amortization of the regulatory asset is the difference between amounts paid toward actuarial determined contributions and actual OPEB expense, which totaled \$54,652 and \$12,251 for the years ended June 30, 2019 and 2018, respectively.

(f) Regulatory Assets – Under Recovered Costs

As provided in the Water System Rate Ordinance, the Water System is required to maintain balancing accounts to record differences between specific costs incurred and amounts billed through rates to recover those costs. Under recovered costs are shown as a current asset on the statements of net position and represent the net balance in the balancing accounts when the total amounts billed through rates are less than the total costs the Water System has incurred. All of the balancing accounts are expected to be settled within a 12-month period through the billing process. At fiscal year-end June 30, 2019, the under recovered balance of \$94,426 is composed of total under recovered balancing accounts of \$160,741 less total over recovered balancing accounts of \$66,315. At fiscal year-end June 30, 2018, the under recovered balance of \$131,394 is composed of total under recovered balancing accounts of \$203,537 less total over recovered balancing accounts of \$72,143.

(5) Cash, Cash Equivalents, and Investments

(a) Investments

A summary of the Water System's investments is as follows (amounts in thousands):

Description	June 30	
	2019	2018
Water Expense Stabilization Fund	\$ 51,981	50,558

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All investments are to be used for a designated purpose as follows:

(i) *Water Expense Stabilization Fund*

The Water Expense Stabilization Fund was established under the Master Bond Resolution and can be withdrawn upon and applied to any lawful purpose in connection with the Water System.

As of June 30, 2019, the Water System's investments and their maturities are as follows (amounts in thousands):

Type of investments	Fair value	Investment maturities			
		1 to 30 days	31 to 60 days	61 to 365 days	366 days to 5 years
U.S. government securities \$	996	—	—	996	—
U.S. government agencies	16,863	999	1,997	10,872	2,995
Supranationals	3,993	1,000	998	996	999
Medium-term corporate notes	12,411	999	999	3,497	6,916
Commercial paper	2,992	1,999	—	993	—
Negotiable CDs	6,885	2,000	2,000	2,885	—
California local agency bonds	2,201	1,000	1,000	201	—
Other state bonds	5,639	—	—	4,605	1,034
Money Market Fund	1	1	—	—	—
	<u>\$ 51,981</u>	<u>7,998</u>	<u>6,994</u>	<u>25,045</u>	<u>11,944</u>

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As of June 30, 2018, the Water System's investments and their maturities are as follows (amounts in thousands):

Type of investments	Fair value	Investment maturities			
		1 to 30 days	31 to 60 days	61 to 365 days	366 days to 5 years
U.S. government securities \$	1,994	—	—	1,994	—
U.S. government agencies	21,347	999	999	14,414	4,935
Supranationals	999	—	999	—	—
Medium-term corporate notes	12,413	—	—	7,963	4,450
Commercial paper	1,995	1,000	—	995	—
Negotiable CDs	6,617	—	—	6,617	—
California state bonds	1,994	—	—	1,994	—
California local agency bonds	2,188	154	1,334	700	—
Other state bonds	996	—	—	996	—
Money Market Fund	15	15	—	—	—
	<u>\$ 50,558</u>	<u>2,168</u>	<u>3,332</u>	<u>35,673</u>	<u>9,385</u>

(ii) *Interest Rate Risk*

The Water System's investment policy limits the maturity of its investments to a maximum of 30 years for U.S. government agency securities; 5 years for supranational securities; medium-term corporate notes, municipal bonds, and state bonds; 270 days for commercial paper; and 397 days for negotiable certificates of deposit.

(iii) *Credit Risk*

Under its investment policy and the Code, the Water System is subject to the prudent investor standard of care in managing all aspects of its portfolios. The prudent investor standard requires that the Department "shall act with care, skill, prudence, and diligence under the circumstances then prevailing, including, but not limited to, the general economic conditions and the anticipated needs of the agency, that a prudent person acting in a like capacity and familiarity with those matters would use in the conduct of funds of a like character and with like aims, to safeguard the principal and maintain the liquidity needs of the agency."

The U.S. government agency securities in the portfolio consist of securities issued by government-sponsored enterprises, which are not explicitly guaranteed by the U.S. government. As of June 30, 2019 and 2018, the U.S. government agency securities in the portfolio were rated with either the highest or second highest possible credit ratings by each of the Nationally Recognized Statistical Rating Organizations (NRSROs) that rated them.

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The Water System's investment policy specifies that supranational notes must be rated "AA" or its equivalent or better by an NRSRO upon purchase. As of June 30, 2019 and 2018, the Water System's investments in supranational notes were rated with the highest possible credit ratings by each of the NRSROs that rated them.

The Water System's investment policy specifies that medium-term corporate notes must be rated in a rating category of "A" or its equivalent or better by an NRSRO upon purchase. Of the Water System's investments in corporate notes as of June 30, 2019, \$999 (8%) was rated in the category of AAA, \$5,525 (45%) was rated in the category of AA, and \$5,886 (47%) was rated in the category of A by at least one NRSRO. Of the Water System's investments in corporate notes as of June 30, 2018, \$988 (8%) was rated in the category of AAA, \$4,007 (32%) was rated in the category of AA, and \$7,417 (60%) was rated in the category of A by at least one NRSRO.

The Water System's investment policy specifies that commercial paper must be of the highest ranking or of the highest letter and number rating as provided for by at least two NRSROs. As of June 30, 2019 and 2018, all of the Water System's investments in commercial paper were rated with at least the highest letter and number rating as provided by at least two NRSROs.

The Water System's investment policy specifies that municipal obligations, issued by California local agencies must be rated in a rating category of "A" or its equivalent or better by an NRSRO. Of the Water System's investments in municipal bonds as of June 30, 2019, \$2,201 (100%) was rated in the category of A or the equivalent short-term rating or better by at least one NRSRO. Of the Water System's investments in municipal bonds as of June 30, 2018, \$2,034 (93%) was rated in the category of AA and \$154, (7%) was rated in a rating category of A or the equivalent short-term rating or better by at least one NRSRO.

The Water System's investment policy specifies that negotiable certificates of deposit must be of the highest ranking or letter and number rating as provided for by at least two NRSROs. As of June 30, 2019 and 2018, all of the Water System's investments in negotiable certificates of deposit were rated with at least the highest letter and number rating as provided by at least two NRSROs.

The Water System's investment policy specifies that State of California obligations must be rated in a rating category of "A" or its equivalent or better by an NRSRO. As of June 30, 2018, all of the Water System's investments in State of California Obligations were rated in the rating category of AA by at least one NRSRO.

The Water System's Investment Policy specifies that obligations of other states in addition to California must be rated in a rating category of "A" or its equivalent or better by an NRSRO. Of the Water System's investments in other state obligations as of June 30, 2019, \$4,632, (82%) was rated in the category of AA and \$1,007 (18%) was rated in the category of A by at least one NRSRO. As of June 30, 2018, 100% of the Water System's investments in obligations of states other than California were rated in the rating category of A by at least one NRSRO.

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The Water System's investment policy specifies that money market funds may be purchased as allowed under the Code, which requires that the fund must have either (1) attained the highest ranking or highest letter and numerical rating provided by not less than two NRSROs or (2) retained an investment adviser registered or exempt from registration with the Securities and Exchange Commission with not less than five years' experience managing money market mutual funds with assets under management in excess of \$500 million. As of June 30, 2019 and 2018, the money market funds in the portfolio had attained the highest possible ratings by at least two NRSROs.

(iv) Concentration of Credit Risk

The Water System's investment policy specifies that there is no percentage limitation on the amount that can be invested in U.S. government agency securities, except that a maximum of 30% of the cost value of the portfolio may be invested in the securities of any single U.S. government agency issuer.

Of the Water System's total investments as of June 30, 2019, \$7,738 (15%) was invested in securities issued by the Federal Home Loan Mortgage Corporation and \$6,959 (13%) was invested in securities issued by the Federal Home Loan Bank.

Of the Water System's total investments as of June 30, 2018, \$10,449 (21%) was invested in securities issued by the Federal Home Loan Bank, \$6,931 (14%) was invested in securities issued by the Federal Home Loan Mortgage Corporation, and \$3,966 (8%) was invested in securities issued by the Federal National Mortgage Association.

(v) Custodial Risk

All investments are held in the Water System's name, and therefore, they do not have custodial risk.

(vi) Fair Value Measurements

The Water System holds investments that are measured at fair value on a recurring basis. Because investing is not a core part of the Department's mission, the Water System determines that the disclosures related to these investments only need to be disaggregated by major type. The Department chooses a tabular format for disclosing the levels within the fair value hierarchy. The Department categorizes its fair value measurements within the fair value hierarchy established by GAAP.

The hierarchy is based on the valuation inputs used to measure the fair value of the asset, as follows:

Level 1 inputs are quoted prices for identical assets or liabilities in an active market.

Level 2 inputs are quoted prices of similar assets or liabilities in active or not active markets.

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Level 3 are unobservable inputs using the best information available to management.

		Fair value using			
		Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Not classified
	June 30, 2019				
Investments by fair value level:					
Debt securities:					
U.S. government securities	\$ 996	996	—	—	—
U.S. government agencies	16,863	—	16,863	—	—
Supranationals	3,993	—	3,993	—	—
Medium-term corporate notes	12,411	—	12,411	—	—
California state bonds	—	—	—	—	—
California local agency	2,201	—	2,201	—	—
Other state bonds	5,639	—	5,639	—	—
Total debt securities	42,103	996	41,107	—	—
Other:					
Commercial paper	2,992	—	2,992	—	—
Certificate of deposit	6,885	—	6,885	—	—
Money market funds	1	—	—	—	1
Total other	9,878	—	9,877	—	1
Total investments	\$ 51,981	996	50,984	—	1

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		Fair value using			
		Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)	Not classified
	June 30, 2018				
Investments by fair value level:					
Debt securities:					
U.S. government securities	\$ 1,994	1,994	—	—	—
U.S. government agencies	21,347	—	21,347	—	—
Supranationals	999	—	999	—	—
Medium-term corporate notes	12,413	—	12,413	—	—
California state bonds	1,994	—	1,994	—	—
California local agency	2,188	—	2,188	—	—
Other state bonds	996	—	996	—	—
Total debt securities	41,931	1,994	39,937	—	—
Other:					
Commercial paper	1,995	—	1,995	—	—
Certificate of deposit	6,617	—	6,617	—	—
Money market funds	15	—	—	—	15
Total other	8,627	—	8,612	—	15
Total investments	\$ 50,558	1,994	48,549	—	15

Debt and other securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for identical securities. Debt securities classified as Level 2 of the fair value hierarchy are valued using a multidimensional relationship model or matrix pricing model utilizing market data, including, but not limited to, benchmark yields, reported trades, and broker dealer quotes. Money market funds with maturity dates of one year or less from the balance sheet are recorded at amortized cost and not required to be categorized.

(b) Pooled Cash

The Water System's cash, cash equivalents, and its collateral value of the City's securities lending program (SLP) are included within the City Treasury's general and special investment pool (the Pool). As of June 30, 2019 and 2018, the Water System's share of the City's general and special investment pool was \$918,574 and \$670,172 respectively, which represents approximately 8% and 6.9% of the Pool, respectively. Amounts pooled in the City Treasury's general and special investment pool are not required to be classified in the fair value hierarchy per GASB Statement No. 72 since they are part of an internal investment pool.

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Pooled cash is recorded as follows on the statements of net position and statements of cash flows (in thousands):

	As of June 30,	
	2019	2018
Cash and cash equivalents – unrestricted	\$ 573,702	344,773
Cash and cash equivalents – restricted	192,800	176,450
Cash and cash equivalents – restricted noncurrent	144,508	141,299
Subtotal cash and cash equivalents per cash flow	911,010	662,522
Cash – securities lending transactions (excluded from the Statement of Cash Flows)	7,564	7,650
	<u>\$ 918,574</u>	<u>670,172</u>

The cash balances of substantially all funds on deposit in the City Treasury are pooled and invested by the City Treasurer for the purpose of maximizing interest earnings through pooled investment activities, but safety and liquidity still take precedence over return. Special pool participants include the City, airports, the Department of Water and Power, harbor, sanitation, and the Municipal Improvement Corporation of Los Angeles. Interest earned on pooled investments is allocated to and recorded in certain participating funds, as authorized by the Council and permitted by the City Charter and the Government code, based on each fund's average daily deposit balance. Unless allocation provisions are specifically stipulated in City ordinance, Council action, or funding source, interest earned on certain funds is allocated to and recorded in the general fund. The City measures and categorizes its investments using fair value measurement guidelines established by GAAP.

Pursuant to California Government Code Section 53607 and the Council File No. 94-2160, the City Treasury shall render to the Council a statement of investment policy (the Policy) annually. Council File No. 11-1740 was adopted on December 12, 2016 as the City's investment policy. This policy shall remain in effect until the Council and the mayor approve a subsequent revision. The Policy governs the City's pooled investment practices. The Policy addresses soundness of financial institutions in which the City Treasurer will deposit funds and types of investment instruments permitted by California Government Code Sections 53600-53638, 16340, and 16429.1. The City Treasury further reports that the current policy allows for the purchase of investments with maturities up to 30 years.

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At June 30, 2019, the investments held in the City Treasury's general and special investment pool programs and their maturities are as follows (in thousands):

Type of investments	Amount	Investment maturities				
		1 to 30 days	31 to 60 days	61 to 365 days	366 days to 5 years	Over 5 years
U.S. Treasury bills	\$ 39,788	—	—	39,788	—	—
U.S. Treasury notes	5,660,280	—	79,959	624,349	4,911,134	44,838
U.S. agencies securities	1,010,212	275,207	125,256	284,339	262,654	62,756
Medium-term notes	1,488,515	30,108	36,976	342,954	1,078,477	—
Mutual funds	2,441	2,441	—	—	—	—
Commercial paper	2,590,611	1,173,961	543,183	873,467	—	—
Municipal bonds	45,163	—	—	—	45,163	—
Asset-backed securities	240,768	—	—	—	240,768	—
Supranational obligations	223,242	15,900	95,255	16,045	96,042	—
Short-term investment funds	53,652	53,652	—	—	—	—
Securities lending short-term repurchase agreement	112,525	112,525	—	—	—	—
Total general and special pools	\$ 11,467,197	1,663,794	880,629	2,180,942	6,634,238	107,594

Interest Rate Risk. The Policy limits the maturity of its investments to 5 years for U.S. Treasury and U.S. agency obligations, medium-term notes, certificate of deposit placement service, negotiable certificates of deposit, collateralized bank deposits, mortgage pass-through securities, supranational obligations, and bank/time deposits; 1 year for repurchase agreements; 270 days for commercial paper; 180 days for bankers' acceptances; 92 days for reverse repurchase agreements; and no maturity for mutual funds. The Policy also allows city funds with longer-term investments horizons to be invested in securities that, at the time of the investment, have a term remaining to maturity in excess of 5 years but with a maximum final maturity of 30 years.

Credit Risk. The Policy establishes minimum credit rating requirements for investments. There are no credit quality requirements for local agency bonds, U.S. Treasury obligations, State of California obligations, California Local Agency obligations, and U.S. agency (U.S. government-sponsored enterprises) securities. The City's \$1.0 billion investments in U.S. government-sponsored enterprises consist of securities issued by the Federal Home Loan Bank – \$478.9 million, Federal National Mortgage Association (Fannie Mae) – \$442.5 million, and Federal Home Loan Mortgage Corporation (Freddie Mac) – \$88.8 million. Of the City's \$1.0 billion investments in U.S. agency securities, \$560.2 million were rated A-1+ by S&P and P-1 by Moody's while the remaining \$450.0 million were rated AA+ by S&P and Aaa by Moody's.

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Medium-term notes must be issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. Medium-term notes must have at least an A rating at the time of purchase. The City's \$1.5 billion investments in medium-term notes consist of securities issued by banks and corporations that comply with these requirements and were rated A or better by S&P and A3 or better by Moody's. One issuer of \$20.6 million medium-term notes was downgraded to A- by S&P and Baa1 by Moody's.

Commercial paper issues must have the highest letter and number rating by NRSRO. The issuing corporation must be organized and operating within the United States and has assets in excess of \$500 million. The City's \$2.6 billion investments in commercial paper were rated A-1+/A-1 by S&P and P-1 by Moody's.

Mutual funds must receive the highest ranking by at least two NRSROs. The City's \$2.4 million in investments in mutual funds were rated AAA by S&P and Aaa by Moody's.

Municipal bonds have no minimum rating requirement. The City's \$45.2 million investments in municipal bonds were rated AA- by S&P and Aa3 by Moody's.

The City's investments in supranational coupons of \$96 million were rated AAA by S&P and Aaa by Moody's; \$127.2 million were rated A-1+ by S&P and P-1 by Moody's. These short-term securities are backed by the full faith of the issuing entities, which are rated AAA/Aaa.

Investments in asset-backed securities of \$105.4 million were rated AAA by S&P and Aaa by Moody's, \$74.2 million were rated Aaa by Moody's and were not rated by S&P, the remaining \$61.2 million were rated AAA by S&P and were not rated by Moody's.

Concentration of Credit Risk. The Policy does not allow more than 40% of its investment portfolio be invested in commercial paper or bankers' acceptances, 30% in certificates of deposit, medium-term notes, and supranational obligations, 20% in mutual funds, money market mutual funds, or mortgage pass-through securities. The Policy further provides for a maximum concentration limit of 10% in any one issuer including its related entities. There is no percentage limitation on the amounts that can be invested in U.S. Treasury and U.S. Agency obligations. The City's pooled investments comply with these requirements. GAAP requires disclosure of certain investments in any one issuer that represents 5% or more of total investments. Of the City's total pooled investments, no one issuer represents 5% or more of the total investments as of June 30, 2019.

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At June 30, 2018, the investments held in the City Treasury's general and special investment pool programs and their maturities were as follows (in thousands):

Type of investments	Amount	Investment maturities				
		1 to 30 days	31 to 60 days	61 to 365 days	366 days to 5 years	Over 5 years
U.S. Treasury bills	\$ 48,872	7,765	41,107	—	—	—
U.S. Treasury notes	5,749,557	—	—	878,442	4,857,135	13,980
U.S. agencies securities	806,638	181,205	57,937	92,173	427,013	48,310
Medium-term notes	1,424,599	10,002	—	186,343	1,228,254	—
Mutual funds	4,787	4,787	—	—	—	—
Commercial paper	813,424	632,859	50,950	129,615	—	—
Municipal bonds	78,274	—	—	19,973	58,301	—
Asset-backed securities	113,973	—	—	—	113,973	—
Supranational obligations	298,584	156,606	—	—	141,978	—
Short-term investment funds	177,796	177,796	—	—	—	—
Securities lending short-term repurchase agreement	163,710	163,710	—	—	—	—
Total general and special pools	\$ 9,680,214	1,334,730	149,994	1,306,546	6,826,654	62,290

Interest Rate Risk. The Policy limits the maturity of its investments to 5 years for U.S. Treasury and U.S. agency obligations, medium-term notes, certificate of deposit placement service, negotiable certificates of deposit, collateralized bank deposits, mortgage pass-through securities, supranational obligations, and bank/time deposits; 1 year for repurchase agreements; 270 days for commercial paper; 180 days for bankers' acceptances; 92 days for reverse repurchase agreements; and no maturity for mutual funds. The Policy also allows city funds with longer-term investments horizons to be invested in securities that, at the time of the investment, have a term remaining to maturity in excess of 5 years but with a maximum final maturity of 30 years.

Credit Risk. The Policy establishes minimum credit rating requirements for investments. There are no credit quality requirements for local agency bonds, U.S. Treasury obligations, State of California obligations, California Local Agency obligations, and U.S. agency (U.S. government-sponsored enterprises) securities. The City's \$806.6 million investments in U.S. government-sponsored enterprises consist of securities issued by the Federal Home Loan Bank – \$227.8 million, Federal National Mortgage Association (Fannie Mae) – \$403.7 million, and Federal Home Loan Mortgage Corporation (Freddie Mac) – \$175.1 million. Of the City's \$806.6 million investments in U.S. agency securities, \$546.1 million were rated AA+ by S&P and Aaa by Moody's; \$260.5 million were not rated individually by S&P nor Moody's.

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Medium-term notes must be issued by corporations organized and operating within the United States or by depository institutions licensed by the United States or any state and operating within the United States. Medium-term notes must have at least an A rating at the time of purchase. The City's \$1.4 billion investments in medium-term notes consist of securities issued by banks and corporations that comply with these requirements and were rated A or better by S&P and A3 or better by Moody's. One issuer of \$20.0 million medium-term notes was downgraded to A- by S&P and Baa1 by Moody's.

Commercial paper issues must have the highest letter and number rating by NRSRO. The issuing corporation must be organized and operating within the United States and have assets in excess of \$500.0 million. The City's \$813.4 million investments in commercial paper were rated A-1+/A-1 by S&P and P-1 by Moody's.

Mutual funds must receive the highest ranking by at least two NRSROs. The City's \$4.8 million investments in mutual funds were rated AAAM by S&P and not rated by Moody's.

Municipal bonds have no minimum rating requirement. The City's \$78.3 million investments in municipal bonds were rated AA- by S&P and Aa3 by Moody's in supranational obligations must have a minimum of AA rating.

The City's investments in supranational coupons of \$142.0 million were rated AAA by S&P and Aaa by Moody's; \$156.6 million were not rated individually by S&P nor Moody's.

Concentration of credit risk. The Policy does not allow more than 40% of its investment portfolio to be invested in commercial paper or bankers' acceptances, 30% in certificates of deposit or medium-term notes, or 20% in mutual funds, money market mutual funds, or mortgage pass-through securities. The Policy further provides for a maximum concentration limit of 10% in any one issuer, including its related entities. There is no percentage limitation on the amounts that can be invested in U.S. Treasury and U.S. agency obligations. The City's pooled investments comply with these requirements. GAAP requires disclosure of certain investments in any one issuer that represent 5% or more of total investments. Of the City's total pooled investments, no one issuer represents 5% or more of the total investments as of June 30, 2018.

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The following table identifies the investment types that are authorized by the Policy as of June 30, 2019 and 2018:

Authorized investment type	Maximum maturity ^A	Maximum specified percentage of portfolio ^B	Minimum credit quality requirements
Local agency bonds	5 years	None	None
U.S. Treasury obligations	5 years*	None	None
State obligations – CA and others	5 years	None	None
CA Local Agency obligations	5 years	None	None
U.S. Agency obligations	5 years*	None	None
Bankers' acceptances	180 days	40%* ^C	None
Commercial Paper – Pooled funds* ^G	270 days	40% of the agency's money ^E	Highest letter and number rating by an NRSRO ^F
Commercial Paper – Non-pooled funds* ^D	270 days	25% of the agency's money ^E	Highest letter and number rating by an NRSRO ^F
Negotiable certificates of deposits	5 years	30% ^H (combined with placement service CD)	None
Non-negotiable certificates of deposits	5 years	None	None
Placement service deposits	5 years	30% ^I (inclusive of placement service CD)	None
Placement service certificate of deposits	5 years	30% ^I (combined with negotiable CD)	None
Repurchase agreements	1 year	None	None
Reverse repurchase agreements and securities	92 days ^J	20% of the base value of the portfolio	None ^K
Lending agreements			None ^K
Medium-term notes* ^L	5 years	30%	"A" rating category or its equivalent or better
Mutual funds and money market mutual funds	N/A	20%	Multiple ^{N,O}
Collateralized bank deposits	5 years	None	None
Mortgage pass-through securities	5 years	20%	"AA" rating category or its equivalent or better
County pooled investments funds	N/A	None	None
Joint powers authority pool	N/A	None	Multiple ^Q
Local agency investment fund (LAIF)	N/A	None	None
Voluntary investment program Fund ^R	N/A	None	None
Supranational obligations ^S	5 years	30%	"AA" rating category or its equivalent or better

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- * Represents where the City's investment policy is more restrictive than the California Government Code. The sources used are Sections 16340, 16429.1, 53601, 53601.8, 53635, 53635.2, and 53638. Municipal utilities districts have the authority under the Public Utilities Code Section 12871 to invest in certain securities not addressed here.

Other restrictions on investments are summarized as follows:

- A Section 53601 provides that the maximum term of any investment authorized under this section, unless otherwise stated, is five years. However, the legislative body may grant express authority to make investments either specifically or as a part of an investment program approved by the legislative body that exceeds this five-year maturity limit. Such approval must be issued no less than three months prior to the purchase of any security exceeding the five-year maturity limit.
- B Percentages apply to all portfolio investments, regardless of source of funds. For instance, cash from a reverse repurchase agreement would be subject to the restrictions.
- C No more than 30% of the agency's money may be in bankers' acceptances of any one commercial bank.
- D "Select agencies" are defined as a "city, a district, or other local agency that does not pool money in deposits or investment with other local agencies, other than local agencies that have the same governing body."
- E Local agencies, other than counties or a city and county, may purchase no more than 10% of outstanding commercial paper of any single issuer.
- F Issuing corporation must be organized and operating within the United States and have assets in excess of \$500.0 million.
- G "Other agencies" are counties, a city and county, or other local agency "that pools money in deposits or investments with other local agencies, including local agencies that have the same governing body." Local agencies that pool exclusively with other local agencies that have the same governing body must adhere to the limits set for "Select agencies" above.
- H No more than 30 percent of the agency's money may be in negotiable certificates of deposit that are authorized under Section 53601(i).
- I No more than 30% of the agency's money may be invested in deposits, including CDs, through a placement service. No more than 30% of the agency's money may be invested in CDs through a placement service and negotiable CDs based on Sections 53601.8, 53635.8, and 53601(i). Excluding purchases of certificates of deposit pursuant to Sections 53601.8 and 53635.8, no more than 10% of the agency's money may be invested with any one private sector entity that assists in the placement of deposits.

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- J Reverse repurchase agreements or securities lending agreements may exceed the 92-day term if the agreement includes a written codicil guaranteeing a minimum earning or spread for the entire period between the sale of a security using a reverse repurchase agreement or securities lending agreement and the final maturity dates of the same security.
- K Reverse repurchase agreements must be made with primary dealers of the Federal Reserve Bank of New York or with a nationally chartered or state-chartered bank that has a significant relationship with the local agency. The local agency must have held the securities used for the agreements for at least 30 days.
- L "Medium-term notes" are defined in Section 53601 as "all corporate and depository institution debt securities with a maximum remaining maturity of five years or less, issued by corporations organized and operating within the U.S. or by depository institutions licensed by the U.S. or any state and operating within the U.S."
- M No more than 10% invested in any one mutual fund. This limitation does not apply to money market accounts.
- N A mutual fund must receive the highest ranking by not less than two nationally recognized rating agencies or the fund must retain an investment adviser who is registered with the SEC (or exempt from registration), has assets under management in excess of \$500.0 million, and has at least five years' experience investing in instruments authorized by Sections 53601 and 53635.
- O A money market mutual fund must receive the highest ranking by not less than two nationally recognized statistical rating organizations or retain an investment adviser registered with the SEC or exempt from registration and who has not less than five years' experience investing in money market instruments with assets under management in excess of \$500.0 million.
- P Issuer must be rated in the category "A," or its equivalent or better, as provided by a nationally recognized rating agency.
- Q A joint powers authority pool must retain an investment adviser who is registered with the SEC (or exempt from registration), has assets under management in excess of \$500.0 million, and has at least five years' experience investing in instruments authorized by Section 53601, subdivisions (a) to (o).
- R Local entities can deposit between \$200.0 million and \$10.0 billion into the Voluntary Investment Program Fund upon approval by their governing bodies. Deposits in the fund will be invested in the Pooled Money Investment Account.
- S Only those obligations issued or unconditionally guaranteed by the International Bank for Reconstruction and Development, International Finance Corporation, and Inter-American Development Bank.

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General Investment Pool Securities Lending Program.

Securities lending is permitted and limited under provisions of California Government Code Section 53601. The Council approved the Securities Lending Program (the SLP) on October 22, 1991 under Council File No. 91-1860, which complies with the California Government Code. The objectives of the SLP in priority order are safety of loaned securities and prudent investment of cash collateral to enhance revenue from the investment program. The SLP is governed by a separate policy and guidelines.

The City's custodial bank acts as the securities lending agent. In the event a counterparty defaults by reason of an act of insolvency, the bank shall take all actions, which it deems necessary or appropriate to liquidate permitted investment and collateral in connection with such transaction, and shall make a reasonable effort for two business days (the Replacement Period) to apply the proceeds thereof to the purchase of securities identical to the loaned securities not returned. If during the Replacement Period the collateral liquidation proceeds are insufficient to replace any of the loaned securities not returned, the bank shall, subject to payment by the City of the amount of any losses on any permitted investments, pay such additional amounts, as necessary, to make such replacement.

Under the provisions of the SLP, and in accordance with the California Government Code, no more than 20% of the market value of the General Investment Pool (the Pool) is available for lending. The City loans out U.S. Treasury Notes and U.S. Agencies Securities. The City receives cash as collateral on the loaned securities, which is reinvested in securities permitted under the Policy. In addition, the City receives securities as collateral on loaned securities, which the City has no ability to pledge or sell without borrower default. In accordance with the California Government Code, the securities lending agent marks to market the value of both the collateral and the reinvestments daily. Except for open loans where either party can terminate a lending contract on demand, term loans have a maximum life of 60 days. Earnings from securities lending accrue to the Pool and are allocated on a pro rata basis to all Pool participants.

During the fiscal year 2019 and 2018, collateralizations on all loaned securities were compliant with the required 102% of the market value. The City can sell collateral securities only in the event of borrower default. The lending agent provides indemnification for borrower default. There were no violations of legal or contractual provisions and no borrower or lending agent default losses during the fiscal year. There was no credit risk exposure to the City because the amounts owed to the borrowers exceeded the amounts borrowed. Loaned securities are held by the City's agents in the City's name and are not subject to custodial credit risk.

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The following table provides information on securities lent and collateral received as part of the City's security lending program as of June 30 (in thousands):

	<u>2019</u>	<u>2018</u>
Type of investment lent:		
For cash collateral:		
U.S. agency securities	\$ 36,270	133,116
U.S. Treasury notes	74,064	5,967
Supranational coupons	—	4,037
Medium-term notes	—	17,210
Total lent for cash collateral	<u>110,334</u>	<u>160,330</u>
For noncash collateral:		
U.S. Treasury notes	466,002	245,904
U.S. agency securities	—	30,214
Corporate bonds	1,074	—
Total lent for noncash collateral	<u>467,076</u>	<u>276,118</u>
Total securities lent	<u>\$ 577,410</u>	<u>436,448</u>
Type of collateral received		
Cash collateral*	\$ 112,525	163,710
Noncash collateral**	—	—
For lent U.S. Treasury notes, U.S. agency securities, medium-term notes, and supranational coupons	<u>478,083</u>	<u>282,448</u>
Total collateral received	<u>\$ 590,608</u>	<u>446,158</u>

* Amount represents cash collateral received and reinvested in repurchase agreements that have the mark-to-market value of the cash collateral pool at 102% for the liquidity of the portfolio and 100% for the duration portfolio for fiscal years 2018 and 2019.

** The City has no ability to pledge or sell collateral securities without borrower default.

Fair Value Measurements

The City measures and categorizes its investments using fair value measurement guidelines established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset or liability. The levels of valuation inputs are as follows:

Level 1 – Quoted prices for identical assets or liabilities in an active market

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Level 2 – Observable inputs other than quoted market prices

Level 3 – Unobservable inputs

At June 30, 2019 and 2018, the City's summary of the fair value hierarchy of investments is as follows (in thousands):

Investments	Amount	June 30, 2019	
		Fair value measurements using Quoted prices in active markets for identical Assets (Level 1)	Significant other observable inputs Assets (Level 2)
Investment subject to fair value hierarchy:			
U.S. Treasury notes	\$ 5,660,280	\$ 181,352	\$ 5,478,928
U.S. agency securities	449,954	—	449,954
Medium-term notes	1,488,515	—	1,488,515
Municipal bonds	45,163	—	45,163
Asset-backed securities	240,768	—	240,768
Supranational obligations	96,043	—	96,043
Total investments subject to fair value	7,980,723	\$ 181,352	\$ 7,799,371
Investment not subject to fair value hierarchy:			
U.S. Treasury Bills*	39,788		
Short-term investment funds*	53,652		
U.S. agency securities*	560,258		
Commercial paper*	2,590,611		
Supranational obligations*	127,199		
Securities lending short-term repurchase agreement **	112,525		
Total investments not subject to fair value hierarchy	3,484,033		
Total investments measured at fair value	11,464,756		
Investments measured at the net asset value (NAV)			
Mutual fund – AMT-Free, tax-exempt	2,441		
Total investments	\$ 11,467,197		

* These investments are recorded at amortized cost that has remaining maturities of one year or less at the time of purchase.

** These investments are recorded based on the cash collateral received and reinvested in repurchase agreement.

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(In thousands)

		June 30, 2018	
		Fair value measurements using	
		Quoted prices in active markets for identical Assets (Level 1)	Significant other observable inputs Assets (Level 2)
Investments	Amount		
Investment subject to fair value hierarchy:			
U.S. Treasury notes	\$ 5,749,557	\$ 49,763	\$ 5,699,794
U.S. agency securities	546,116	—	546,116
Medium-term notes	1,424,599	—	1,424,599
Municipal bonds	78,274	—	78,274
Asset-backed securities	113,973	—	113,973
Supranational obligations	141,978	—	141,978
Total investments subject to fair value	<u>8,054,497</u>	<u>\$ 49,763</u>	<u>\$ 8,004,734</u>
Investment not subject to fair value hierarchy:			
Mutual fund*	177,796		
Short-term investment funds*	48,872		
U.S. agency securities*	260,522		
Commercial paper*	813,424		
Supranational obligations*	156,606		
Securities lending short-term repurchase agreement **	<u>163,710</u>		
Total investments not subject to fair value hierarchy	<u>1,620,930</u>		
Total investments measured at fair value	<u>9,675,427</u>		
Investments measured at the net asset value (NAV):			
Mutual fund – AMT-Free, tax-exempt	<u>4,787</u>		
Total investments	<u>\$ 9,680,214</u>		

* These investments are recorded at amortized cost that has remaining maturities of one year or less at the time of purchase.

** These investments are recorded based on the cash collateral received and reinvested in repurchase agreement.

Investments classified in Level 1 of the fair value hierarchy of \$181.3 million and \$49.8 million at June 30, 2019 and 2018, respectively, are valued using observable unadjusted quoted prices in an active market.

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Investments in the Level 2 classification totaling \$7.8 billion and \$8 billion at June 30, 2019 and 2018, respectively, are valued using matrix pricing obtained from various pricing sources by the City's custodian bank. At the time of purchase, securities are automatically assigned a primary pricing source, which is used in the portfolio valuation report and evaluated based on market inputs, such as benchmark yields, reported trades, broker-dealer quotes, issuer spreads, two-sided markets, benchmark securities, bids, offers, and reference data.

Mutual fund investments measured at NAV normally invest substantially all of their assets in short-term, high-quality municipal obligations that provide income exempt from federal income taxes. The fund also may invest in high-quality, short-term structured notes that are derivative instruments whose value is tied to underlying municipal obligations. There are no restrictions on redemption and no stipulated redemption notice period.

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(6) Long-Term Debt

Long-term debt outstanding as of June 30, 2019 and 2018 consists of revenue bonds and refunding revenue bonds due serially in varying annual amounts, and other long-term debt, as follows (amounts in thousands):

Bond issues	Date of issue	Effective interest rate %	Fiscal year of last scheduled maturity	Principal outstanding	
				2019	2018
Revenue bonds:					
Issue of 2001, Series B	02/28/01	Variable	2036	\$ 325,000	325,000
Issue of 2003, Series B	03/06/03	4.014	2031	8,780	8,780
Issue of 2007, Series A1	06/26/07	4.764	2038	—	—
Issue of 2009, Series A	02/04/09	5.118	2039	—	142,635
Issue of 2009, Series B	12/03/09	3.252	2021	57,970	84,795
Issue of 2009, Series C	12/03/09	3.844	2040	346,090	346,090
Issue of 2010, Series A	12/14/10	4.374	2051	492,710	492,710
Issue of 2011, Series A	08/24/11	4.542	2042	299,665	306,225
Issue of 2012, Series A	06/06/12	4.319	2044	276,765	276,765
Issue of 2012, Series B	08/09/12	4.023	2044	322,000	322,000
Issue of 2012, Series C	08/09/12	2.483	2027	92,715	92,715
Issue of 2013, Series A	05/30/13	2.797	2035	83,895	91,965
Issue of 2013, Series B	12/05/13	3.836	2036	354,365	364,990
Issue of 2014, Series A	11/20/14	3.987	2045	271,000	271,000
Issue of 2016, Series A	04/21/16	3.184	2047	628,615	628,615
Issue of 2016, Series B	06/09/16	3.111	2047	265,730	265,730
Issue of 2017, Series A	05/11/17	3.825	2048	529,055	530,270
Issue of 2018, Series A	03/01/18	3.576	2049	231,000	231,000
Issue of 2018, Series B	11/29/18	3.802	2049	426,330	—
Total principal amount				5,011,685	4,781,285
Unamortized premiums and discounts				477,384	446,714
Revenue bonds, net				5,489,069	5,227,999
Debt due within one year (including current portion of variable rate debt)				(95,230)	(89,700)
				5,393,839	5,138,299

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Bond issues	Date of issue	Effective interest rate %	Fiscal year of last scheduled maturity	Principal outstanding	
				2019	2018
Other long-term debt:					
Loans payable to California State Water					
Resources Control Board					
SRF1997CX101	12/27/01	2.320 %	2024	\$ 4,736	5,723
SRF02CX139	06/28/07	2.600 %	2030	15,483	16,685
SRF06CX144	09/11/07	2.452 %	2030	22,273	24,017
SRF06CX147	06/28/07	2.292 %	2030	23,423	25,276
SRF10CX103	06/24/10	—	2035	35,132	37,474
SRF10CX104	06/24/10	—	2033	6,462	6,941
SRF11CX105	06/30/11	—	2035	18,501	19,694
SRF10CX116	06/30/11	—	2034	13,500	14,500
SRF10CX117	06/30/11	—	2033	6,750	7,250
SRF12CX105	06/30/12	—	2045	110,310	114,553
SRF12CX106	06/30/12	—	2045	28,502	29,598
SRF13P110	06/26/13	—	2019	—	50
SRF13P111	06/26/13	—	2019	—	50
SRF13P112	06/26/13	—	2019	—	50
SRF13CX104	06/26/13	—	2047	5,633	4,715
SRF13CX105	06/26/13	—	2047	95,583	97,407
SRF14CX102	06/26/14	2.085 %	2047	7,677	7,882
SRF14CX103	06/26/14	2.085 %	2047	51,330	52,701
SRF14CX104	06/26/14	2.085 %	2047	16,238	16,672
SRF14CX105	06/26/14	2.085 %	2047	32,017	32,872
SRF14-586-550	03/10/15	—	2022	40	60
SRF14-310-550	06/19/15	1.663 %	2040	50,839	40,672
SRF D15-02014	09/29/15	1.663 %	2036	3,394	3,570
SRF D17-02081	10/01/18	1.800 %	2052	95,370	—
SRF D17-02082	07/31/18	1.800 %	2049	6,120	—
Loans payable to California					
Department of Water					
Resources Calconserve	09/19/18	—	2041	1,000	—
Total principal amount				650,313	558,412
Amount due within one year				(14,280)	(14,146)
Loans payable, noncurrent				636,033	544,266
Total long-term debt, bonds, and loans				\$ 6,139,382	5,786,411

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Revenue bonds generally are callable 10 years after issuance. The Water System has agreed to certain covenants with respect to bonded indebtedness. Significant covenants include the requirement that Water System's net income, as defined, will be sufficient to pay certain amounts of future annual bond interest and of future annual aggregate bond interest and principal maturities. Revenue bonds and refunding bonds are collateralized by the future revenue of the Water System.

(a) Long-Term Debt Activity

The Water System had the following activity in long-term debt during fiscal years 2019 and 2018 (amounts in thousands):

	<u>Balance June 30, 2018</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance June 30, 2019</u>
Revenue bonds:				
Principal:				
Beginning balance	\$ 4,781,285	—	—	4,781,285
Issuances	—	305,000	—	305,000
Refunding bonds	—	121,330	—	121,330
Scheduled maturities	—	—	(57,200)	(57,200)
Refunded/defeased bonds	—	—	(138,730)	(138,730)
	<u>4,781,285</u>	<u>426,330</u>	<u>(195,930)</u>	<u>5,011,685</u>
Premium(Discount)				
Beginning balance	446,714	—	—	446,714
Issuances	—	43,929	—	43,929
Refunding bonds	—	17,993	—	17,993
Scheduled amortization	—	—	(30,449)	(30,449)
Written off due to refunding	—	—	(803)	(803)
	<u>446,714</u>	<u>61,922</u>	<u>(31,252)</u>	<u>477,384</u>
Revenue bonds, net	5,227,999	488,252	(227,182)	5,489,069
Loans from SWRCB and DWR ¹	558,412	115,257	(23,356)	650,313
Total	<u>\$ 5,786,411</u>	<u>603,509</u>	<u>(250,538)</u>	<u>6,139,382</u>

¹ During fiscal year 2018-19, the Water System entered into four new loan agreements with the SWRCB and one with the DWR. The Water System drew down funds on two of the new loan agreements with the SWRCB and the new loan with the DWR during fiscal year 2019. The DWR loan received \$1 million in funding. SWRCB loans received \$114.3 million to fund water quality capital improvements and made principal payments of \$23.4 million.

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	Balance June 30, 2017	Additions	Reductions	Balance June 30, 2018
Revenue bonds:				
Principal:				
Beginning balance	\$ 4,605,500	—	—	4,605,500
Issuances	—	231,000	—	231,000
Refunding bonds	—	—	—	—
Scheduled maturities	—	—	(55,215)	(55,215)
Refunded/defeased bonds	—	—	—	—
	<u>4,605,500</u>	<u>231,000</u>	<u>(55,215)</u>	<u>4,781,285</u>
Premium(Discount)				
Beginning balance	431,781	—	—	431,781
Issuances	—	42,403	—	42,403
Refunding bonds	—	—	—	—
Scheduled amortization	—	—	(27,470)	(27,470)
Written off due to refunding	—	—	—	—
	<u>431,781</u>	<u>42,403</u>	<u>(27,470)</u>	<u>446,714</u>
Revenue bonds, net	5,037,281	273,403	(82,685)	5,227,999
Loan from SWRCB ¹	531,884	49,687	(23,159)	558,412
Total	<u>\$ 5,569,165</u>	<u>323,090</u>	<u>(105,844)</u>	<u>5,786,411</u>

¹ During fiscal year 2017-18, the Water System did not enter into new loan agreements with the SWRCB. Existing SWRCB loans received \$49.7 million to fund water quality capital improvements and made principal payments of \$23.1 million.

(b) New Issuances

Fiscal Year 2019

In November 2018, the Water System issued \$426 million of Water System Revenue Bonds, 2018 Series B. The net proceeds of \$487.3 million, including \$61.0 million issue premium net of underwriter's discount, were used to pay for budgeted capital improvements and refund all of the outstanding Water System Revenue Bonds, 2009 Series A, amounting to \$138.7 million. The transaction resulted in a net present value savings of \$24.6 and a net gain for accounting purposes of \$0.45 million, which was capitalized as deferred inflows on debt refunding and is being amortized over the life of the refunded bonds.

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Fiscal Year 2018

In March 2018, the Water System issued \$231 million of Water System Revenue Bonds, 2018 Series A. The net proceeds of \$272.9 million, including \$41.9 million issue premium net of underwriter's discount, were deposited into the construction fund to be used for capital improvements.

(c) Outstanding Debt Defeased

The Water System defeased certain revenue bonds in the prior years by placing cash or the proceeds of new revenue bonds in irrevocable trusts to provide for all future debt service payments on the old bonds. Accordingly, the trust account assets and the liability for the defeased bonds are not included in the Water System's financial statements. At June 30, 2019, the following revenue bonds outstanding are considered defeased (amounts in thousands):

<u>Bond issues</u>	<u>Principal outstanding</u>
Issue of 1998 R	\$ 66,040
	<u>\$ 66,040</u>

(d) Variable Rate Bonds

As of June 30, 2019 and 2018, the Water System had \$325 million in variable rate bonds. The variable rate bonds currently bear interest at daily and weekly rates ranging from 0.95% to 1.52% as of June 30, 2019 and 0.46% to 1.15% as of June 30, 2018. The Water System can elect to change the interest rate period of the bonds, with certain limitations. The bondholders have the right to tender the bonds to the tender agent on any business day with seven days' prior notice. The Water System has entered into standby agreements with a syndicate of commercial banks in initial amounts of \$225 million (2001B, Subseries B 1 to B 3) and \$100 million (2001B, Subseries B 4) to provide liquidity for these bonds. The extended standby agreements expire in January 2021 and January 2022.

Under the agreements, the \$225 million variable rate bonds will bear interest that is payable monthly at the greatest of (i) Prime Rate plus 1.00%; (ii) the Federal Funds Rate plus 2.00%; and (iii) 7.50%, while the \$100 million variable rate bonds will bear interest that is payable monthly at the LIBOR Index Rate plus 7.50%. The unpaid principal of each liquidity advance made by the liquidity provider is payable in 10 equal semiannual installments 90 days immediately following the related liquidity advance. At its discretion, the Water System has the ability to convert the outstanding bonds to fixed rate obligations, which cannot be tendered by the bondholders.

The variable rate bonds have been classified as long term on the statements of net position as the liquidity facilities give the Water System the ability to refinance on a long-term basis, and the Water System intends to either renew the facilities or exercise its right to tender the debt as a long-term financing. That portion, which would be due in the next fiscal year in the event that the outstanding

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variable rate bonds were tendered and purchased by the commercial banks under the standby agreements, has been included in the current portion of long-term debt and remains unchanged at \$32.5 million as of June 30, 2019 and 2018.

(e) Direct Borrowings and Line of Credit

Under GASB 88, *Certain Disclosures Related to Debt, including Direct Borrowings and Direct Placements*, the Water System has the following direct placement debt and unused line of credit:

The Drinking Water State Revolving Fund (DWSRF), administered by the State of California's State Water Resources Control Board, assists public water systems in financing the cost of drinking water infrastructure projects needed to achieve or maintain compliance with Safe Drinking Water Act (SDWA) requirements. The DWSRF utilizes a prioritized project ranking system to ensure that program resources are applied to projects addressing public health risk problems; projects needed to comply with the SDWA; and projects assisting public water systems most in need on a per household-affordability basis. The Water System has applied for and received funding from the DWSRF for critical Water System capital projects required for compliance with federal drinking water regulations, specifically the Long-Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfection By Products Rule. This funding has been made available to the Water System in the form of low or 0% interest loans with a repayment period of up to 30 years.

The CalConserve Water Use Efficiency Loan Program, administered by the State of California Department of Water Resources (DWR), established a loan program to local agencies for specific types of water conservation and water use efficiency projects and programs to achieve urban water use targets. The Water System has applied for and received funding from the DWR that will be used to implement an Institutional Water Use Efficiency Loan Program. This funding has been made available to the Water System as a 0% loan with a repayment period of 20 years.

The direct borrowings from the DWSRF and DWR contain specified terms relating to certain default provisions as defined by each respective funding agreement. Certain default provisions under the funding agreements include, but are not limited to, material breach of the funding agreement, cessation of operations or bankruptcy, failure to pay amounts due, making false representations with respect to the funding agreements, and failure to meet compliance requirements. Some agreements may be terminated at the option of the lender upon material violation and failure to become compliant. Such termination may result in the immediate repayment of disbursed funds. The Water System does not have any assets pledged as collateral for direct borrowings or subjective acceleration clauses.

On December 14, 2018, LADWP entered into an Amended and Restated Revolving Credit Agreement (Amended RCA) and the related Amended and Restated Fee and Interest Rate Agreement with Wells Fargo Bank, National Association with a \$300 million commitment and the option to request additional commitment, as needed, up to a total commitment of \$500 million. The Department can request loans for Water System improvements, Power System improvements, and/or such other lawful purposes of the Department. The interest charge for tax-exempt loans is based on SIFMA plus a spread of 0.50% or 75% of one-month LIBOR plus a spread of 0.45%. The interest charge for taxable loans is based on

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one-month LIBOR plus a spread of 0.45%. The Amended RCA expires in December 2023. As of June 30, 2019, the Water System has no obligations outstanding under the Amended RCA.

On December 1, 2015, the Water System entered into a revolving credit agreement (as amended, the Wells Fargo RCA) with Wells Fargo Bank, National Association (Wells Fargo), pursuant to which Wells Fargo has committed to make loans to the Water System in a principal amount not to exceed \$500 million outstanding at any one time.

In June 2017, the Water System borrowed \$250 million from the Wells Fargo RCA, which was deposited into the Water Revenue Fund to meet the Board adopted financial planning criteria of maintaining a cash balance of at least 150 days of operating expenses of the Water System. In March 2018, the Water System repaid the \$250 million loan. As of June 30, 2018 and 2019, the Water System had no obligations under the Wells Fargo RCA.

(f) Scheduled Principal Maturities and Interest

As of June 30, 2019, annual principal maturities and interest on an accrual basis for bonds and loans are as follows (amounts in thousands):

	<u>Principal</u>	<u>Interest and amortization</u>
Fiscal year(s) ending June 30:		
2020	\$ 77,010	220,927
2021	91,954	218,134
2022	104,690	214,459
2023	120,540	210,176
2024	138,311	205,292
2025–2029	786,732	945,838
2030–2034	961,102	797,690
2035–2039	1,175,746	603,146
2040–2044	1,335,342	332,555
2045–2049	717,885	113,731
2050–2054	152,686	4,992
Total requirements	<u>\$ 5,661,998</u>	<u>3,866,940</u>

The interest and amortization is net of \$468.89 million of unamortized discount/premium and gain/loss due to issuances of new and refunding bonds.

The maturity schedule presented above reflects the scheduled debt service requirements for all of the Water System's long-term debt. The schedule is presented assuming that the tender options on the variable rate bonds, as discussed on the previous page, will not be exercised. Should the bondholders

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exercise the tender options, the Water System could be required to redeem the \$325 million in variable rate bonds outstanding over the next six fiscal years as follows: \$32.5 million in fiscal year 2020, \$65 million in each of the fiscal years 2021 through 2024, and \$32.5 million in fiscal year 2025. Accordingly, the statements of net position recognize the possibility of the exercise of the tender options and reflect the \$32.5 million that could be due in fiscal year 2020, as a current portion of long-term debt payable.

Interest and amortization presented in the above schedule include interest requirements for the variable rate debt over the regularly scheduled maturity period. Variable debt interest rate in effect at June 30, 2019 averages 1.28%. Should the tender options be exercised, the interest would be payable at the rate in effect at the time the standby agreements are activated.

(7) Retirement Plan

(a) Plan Description

The Water System has funded a contributory retirement plan covering substantially all of its employees. The Water and Power Employees' Retirement Fund (the Fund or Plan) operates as a single-employer defined-benefit plan to provide pension benefits to eligible department employers. The Retirement Fund's assets are held in a special trust fund of the City. Plan benefits are generally based on years of service, age at retirement, and the employee's highest 12 consecutive months of salary before retirement. Active participants who joined the Plan on or after June 1, 1984 are required to contribute 6% of their annual covered payroll. Participants who joined the Plan prior to June 1, 1984 contribute an amount based upon an entry-age percentage rate. A new Tier 2 was added to the Plan and applies to members hired on or after January 1, 2014. Tier 2 plan participants are required to contribute 10% of their salary and plan benefits are based on a three-year final average salary period.

Under the provisions of the City Charter, the Retirement Board of Administration (the Retirement Board) has the responsibility and authority to administer the Plan and to invest its assets. The Retirement Board members serve as trustees and must act in the exclusive interest of the Plan's members and beneficiaries. The Retirement Board has seven members: one member of the Board of Water and Power Commissioners, the General Manager, the Chief Accounting Employee, three employee members who are elected for three-year terms by active members of the Plan, and one retiree who is appointed by the Board of Water and Power Commissioners for a three-year term.

Plan amendments must be approved by both the Retirement Board and the Board of Commissioners of the Department. The Plan issues separately available financial statements on an annual basis. Such financial statements can be obtained from the Department of Water and Power Retirement Office, 111 N. Hope, Room 357, Los Angeles, California 90012.

(b) Benefits Provided

The Plan provides retirement benefits to eligible employees. Most employees of the Water System become members of the Plan effective on the first day of biweekly payroll following employment or immediately following transfer from another City department. Members employed prior to January 1,

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2014 are designated as Tier 1 and those hired on or after January 1, 2014 are designated as Tier 2 (unless a specific exemption applies to employee providing a right to Tier 1 status).

Tier 1 members are eligible to retire once they attain the age of 60 with 5 or more years of service or at age 55 with 10 or more years of service credit acquired in the last 12 years prior to retirement. A Tier 1 member with 30 years of service is eligible to retire regardless of age. Tier 2 members are eligible to retire once they attain the age of 60 with 10 or more years of service or at any age with 30 years of service. For both tiers, combined years of service between the Plan and the Los Angeles City Employees Retirement System is used to determine retirement eligibility and at least 5 years must be actual employment at the Department or the City (not purchased). For both tiers, members receiving Permanent Total Disability benefits may retire regardless of age. For Tier 1, to be eligible for a Formula Pension, the employee must have worked or been paid disability 4 of the last 5 years immediately preceding eligibility to retire, or while eligible to retire.

The Formula Pension benefit the member will receive is based upon age at retirement, monthly average salary base, and years of retirement service credit. The Tier 1 Formula Pension is equal to 2.1% times years of service credit times monthly average salary base. In addition, members retiring after attaining age 55 with 30 years of service credit, receive an increase in the benefit factor from 2.1% to 2.3%. A reduced early retirement benefit is paid for those members attaining age 55 with 10 years of service or any age (under 55) with 30 years of service. The reduction is 1.5% for each year of retirement age between 60 and 55 and 3.0% for each year of retirement before age 55.

Under Tier 2, there are various benefit factors that apply as shown below:

- 1.5% at age 60 with 5 years of continuous Department Service (or 10 years of Qualifying Service)
- 2.0% at age 60 with 30 years of Qualifying Service
- 2.0% at age 55 with 30 years of Service credit
- 2.0% at age 63 with 5 years of continuous Department Service (or 10 years of Qualifying Service)
- 2.1% at age 63 with 30 years of Qualifying Service

Reduced early retirement benefits are still available at any age (under 55) with 30 years of service and the reduction factors are the same as Tier 1. Note that these reduction factors continue to include the reduction from age 60 to 55 and from 55 to age at retirement.

For Tier 1 members, the maximum monthly retirement allowance is 100% of monthly average salary base. For Tier 2 members, the maximum monthly retirement allowance is 80% of monthly average salary base. Under Tier 1, pension benefits are calculated based on the highest average salary earned during a 12-month period. Under Tier 2, pension benefits are calculated based on the average salary earned during a 36-month period.

The member may elect the full allowance, or choose an optional retirement allowance. The full allowance provides the highest monthly benefit and up to a 50% continuance to an eligible surviving

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spouse or domestic partner. There are five optional retirement allowances the member may choose. Each of the optional retirement allowances requires a reduction in the full allowance in order to allow the member the ability to provide various benefits to a surviving spouse, domestic partner, or named beneficiary.

(c) Plan Membership

As of the June 30, 2018 and 2017 measurement dates for the June 30, 2019 and 2018 net pension liability, pension plan membership, which consisted of Water and Power System members, consisted of the following:

	2019	2018
Retired members or beneficiaries currently receiving benefits	\$ 9,165	9,272
Vested terminated members entitled to, but not yet receiving, benefits	1,728	1,648
Active members	10,114	9,806
Total	\$ 21,007	20,726

(d) Contributions

The Department contributes \$1.10 for each \$1.00 contributed by participants plus an actuarially determined annual required contribution (ARC) as determined by the Plan's independent actuary. The required contributions are allocated between the Power System and the Water System based on the current year labor costs.

Employer contribution rates are adopted annually based upon recommendations received from the Plan's actuary after the completion of the annual actuarial valuation. The average employer contribution rates for fiscal years 2019, 2018, and 2017 (based on the July 1, 2018, 2017, and 2016 valuations) were 40.15%, 44.62%, and 45.25% of compensation, respectively. The average member contribution rate for fiscal years 2019, 2018, and 2017 (based on the July 1, 2017, 2016, and 2015 valuations) was 7.10% of compensation. Most Tier 1 members contribute at 6% of compensation and all Tier 2 members contribute at 10% of compensation. Employer contributions in fiscal years 2019, 2018, and 2017 amounted to \$134 million, \$141 million, and \$127 million, respectively.

(e) Net Pension Liability

At June 30, 2019 and 2018, the Water System reported a liability of \$292 million and \$426 million, respectively, for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2018 and 2017, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of the same dates. The Water System's proportion of the net pension liability was based on the Water System's projected compensation for the year following the measurement date, relative to the projected compensation for the same period for

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both the Water System and the Power System. At June 30, 2019, the Water System's proportion was 32.1% compared to 31.7% and 31.9% as of June 30, 2018 and 2017, respectively.

(f) Actuarial Assumptions

The Water System's net pension liability as of June 30, 2019 and 2018, was measured as of June 30, 2018 and 2017, using actuarial valuations as of July 1, 2018 and 2017, respectively. The actuarial assumptions used in the July 1, 2018 and July 1, 2017 valuations were based on the results of an experience study for the period from July 1, 2012 through June 30, 2015. The following assumptions were applied to all periods included in the measurement for the July 1, 2018 and 2017 actuarial valuations:

Actuarial assumptions	2018	2017
Inflation	3.00%	3.00%
Salary increases	4.50%–10.00%	4.50%–10.00%
Investment rate of return	7.25%	7.25%
Cost-of-living adjustments	3.00% (Actual increases are contingent upon CPI increases, with a 3.00% maximum for Tier 1 and 2.00% maximum for Tier 2.)	3.00% (Actual increases are contingent upon CPI increases, with a 3.00% maximum for Tier 1 and 2.00% maximum for Tier 2.)
Mortality	Healthy postretirement: RP-2014 Healthy Annuitant Mortality Table set back one year with MP-2015 projection scale	Healthy postretirement: RP-2014 Healthy Annuitant Mortality Table set back one year with MP-2015 projection scale

(g) Discount Rate

The discount rate used to measure the pension liability was 7.25% as of both June 30, 2019 and 2018. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the actuarially determined contribution rates. For this purpose, only employee and employer contributions that are intended to fund benefits for current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs for future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments for current and inactive plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments, which is estimated to be 104 years, to determine the total pension liability at June 30, 2019 and 2018.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which the best estimate ranges of expected future real rates of return (expected returns, net of inflation) are developed for each major asset class. These ranges are

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combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset proportionate share, adding expected inflation and subtracting expected investment expenses. The target allocation and projected best estimates of arithmetic real rates of return for each major asset class, after deducting inflation but before deducting investment expenses, used in the derivation of the long-term expected investment rate of return assumption are summarized in the following table:

Asset class	June 30, 2019 and 2018	
	Target allocation	Long-term expected real rate of return
Domestic equity	29 %	5.76 %
Developed international equity	19	7.25
Fixed income	25	1.74
Real estate	8	4.37
Real return	5	2.39
Private equity	8	7.75
Covered calls	5	3.50
Cash and cash equivalents	1	(0.46)
Total	100 %	

(h) Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Water System as of June 30, 2019 and 2018, calculated using the discount rate of 7.25%, respectively, as well as what the Department's pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.25%) or one percentage point higher (8.25%) than the current rate (amounts in thousands):

Net pension liability	1% Decrease (6.25%)	Current discount rate (7.25%)	1% Increase (8.25%)
June 30, 2019	\$ 864,130	292,447	(180,280)
Net pension liability	1% Decrease (6.25%)	Current discount rate (7.25%)	1% Increase (8.25%)
June 30, 2018	\$ 972,338	426,444	(24,582)

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(i) Pension Plan Fiduciary Net Position

The pension plan's fiduciary net position is determined based on the accrual basis of accounting, which is on the same basis of accounting as the Plan. Pension plan investments are recorded at fair value except for short-term investments, which are recorded at amortized cost. Benefit payments include costs as designated by the plan document, refunds of employee contributions due to terminations and member deaths, and administrative expenses.

(j) Pension Expense, Deferred Outflow of Resources, and Deferred Inflow of Resources

The Water System recognized pension expense of \$56,106 and \$78,301 for the years ended June 30, 2019 and 2018, respectively. Pension expense is recorded as operation and maintenance expense or construction work in progress depending on where the related payroll is charged. At June 30, 2019 and 2018, the Water System reported \$121,972 and \$188,361, respectively, for deferred outflow of resources and deferred inflow of resources of \$137,114 and \$154,895, respectively.

The below table summarizes the deferred inflow of resource and deferred outflow of resources related to pensions at June 30, 2019 and 2018 (amounts in thousands):

Deferred outflow of resources	June 30	
	2019	2018
Changes in proportion and differences between entity contributions and proportionate share of contributions	\$ 6,021	3,343
Difference between actual and expected experience in the total pension liability	2,761	—
Changes of assumptions and other inputs	113,190	185,018
Total deferred outflow of resources	<u>\$ 121,972</u>	<u>188,361</u>

Deferred inflow of resources	June 30	
	2019	2018
Changes in proportion and differences between entity contributions and proportionate share of contributions	\$ 3,805	5,563
Net difference between projected and actual earnings on pension plan investments	47,721	23,143
Difference between expected and actual experience in the total pension liability	85,588	126,189
Total deferred inflow of resources	<u>\$ 137,114</u>	<u>154,895</u>

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In addition to the deferred outflows noted above, there are also \$134,172 and \$140,957 of deferred outflows related to pension contributions made after the measurement date as of June 30, 2019 and 2018, respectively. These deferred outflows of resources are recognized as a reduction of the net pension liability in the subsequent fiscal year.

The net amount of deferred outflows of resources and deferred inflows of resources related to pensions that will be recognized in pension expense during the next five years and thereafter is as follows:

Year	June 30	
	2019	2018
2019	\$ —	9,635
2020	29,711	39,458
2021	10,943	20,901
2022	(37,416)	(26,897)
2023	(19,958)	(9,631)
2024	1,338	—
2025	240	—
Total	\$ (15,142)	33,466

(8) Other Postemployment Benefit Plans

(a) General Information About the Plan

As discussed in note 2, beginning with the year ended June 30, 2018, the Water System adopted the provisions of GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*.

The Department provides retirees medical and dental benefits and death benefits to active and retired employees and their dependents. The retiree healthcare plan and death benefit plan are administered by the Department. The Retirement Board and the Board of Commissioners have the authority to approve provisions and obligations. Eligibility for benefits for retired employees is dependent on a combination of age and service of the participants pursuant to a predetermined formula. Any changes to these provisions must be approved by the Retirement Board and the Board.

The retiree healthcare and death benefit plans are single-employer, defined-benefit plans. Plan assets are administered through irrevocable trusts for each fund used solely for the benefit of providing benefits to eligible participants in the Plan. Assets of the trust are legally protected from creditors and dedicated to providing postemployment reimbursement of eligible medical, dental, and vision expenses to current and eligible future retirees and their spouses in accordance with the terms of the Plan. Death benefits are provided to active and inactive employees in accordance with terms of the Plan.

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The funds are administered in separate trust funds and presented as part of the retirement system financial statements. Such financial statements can be obtained from the Department of Water and Power Retirement Office, 111 North Hope, Room 357, Los Angeles, California 90012.

(b) Benefits Provided

For retiree healthcare, a medical subsidy is computed by a formula related to years of service and attained age of retirement. The subsidy limit is applied to the combined medical carrier and Medicare Part B premium but not the dental premium. For Tier 1, the monthly medical subsidy ranges from \$30.32 to \$1,751 depending on age and service at retirement. Tier 2, the monthly medical subsidy ranges from \$30.32 to \$875.59 depending on age and service at retirement. The monthly dental subsidy for most retirees is \$35.79. The dental subsidy is not available to pay for premiums for married and surviving spouses or domestic partners. All members hired before January 1, 2014 are Tier 1. All members hired after January 1, 2014 are Tier 2.

The death benefit plan pays death benefits to the beneficiaries of eligible employees. Generally, to be eligible for the family death benefit allowance, an employee must be a full member of the Plan and contributing to the Plan at the time of death. If death occurs after retirement, the retired member must be receiving a monthly retirement allowance from the Plan and had at least five years of department service at retirement. The Family Death Benefit plan pays a monthly allowance of \$416 to the surviving spouse of a member with minor (or disabled) children plus \$416 for each minor (or disabled) child up to a maximum monthly allowance of \$1,170. In addition, the spouse's portion will not be paid if the spouse is receiving a survivor's optional death benefit allowance or an eligible spouse allowance from the retirement plan.

The Supplemental Family Death Plan, which is part of the Death Benefit plan is optional and subject to making additional member contributions. The Supplemental Family Death Benefit Plan pays a monthly allowance of \$520 for each surviving spouse or child, in addition to the amounts payable from the Family Death Benefit Plan, subject to a maximum of \$1,066 for the additional benefits. The insured lives death benefit plan for contributing members provides death benefits to employees that die while employed by the Department. Generally, to be eligible, an employee must be a full member of the Plan and contributing to the Plan at the time of death. The benefit paid from the death benefit fund is a single sum that is equal to the lesser of 14 times the member's monthly compensation with no maximum.

The insured lives death benefit plan for noncontributing members provides death benefits to employees that were employed by the Department for at least five years and death occurred after retirement. The death benefit is paid in a single sum that is equal to the lesser of 14 times the member's monthly full retirement allowance or \$20,000.

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(c) Employees Covered by Benefit Terms

At the Department's measurement date of June 30, 2018 for the June 30, 2019 reporting period, the following employees were covered by the benefit terms:

Plan Membership	Retiree healthcare	Death benefit
Beneficiaries currently receiving benefits	—	91
Retired members currently receiving benefits	8,185	7,199
Vested terminated members not receiving benefits	—	656
Active members	10,114	10,114
Total	18,299	18,060

At the Department's measurement date of June 30, 2017, the following employees were covered by the benefit terms:

Plan Membership	Retiree healthcare	Death benefit
Beneficiaries currently receiving benefits	—	93
Retired members currently receiving benefits	8,038	7,113
Vested terminated members not receiving benefits	—	726
Active members	9,806	9,806
Total	17,844	17,738

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(d) Contributions

The Board of Commissioners establishes rates for retiree healthcare plan based on an actuarially determined rate. For the years ended June 30, 2019 and 2018, the Department's average contribution rate was 9.9% and 10.1%, respectively, of covered employee payroll. Employees are not required to contribute to the retiree healthcare plan. Water System contributions to the retiree healthcare plan were \$30,344 and \$27,645 including administrative expenses of \$.3 million and \$0.2 million for the fiscal year ended June 30, 2019 and 2018, respectively.

The Department contributes to the death benefit fund based on actuarially determined contribution rates adopted by the board of administration. Employer contribution rates are adopted annually based on recommendations received from the Plan's actuary after the completion of the review of the death benefit fund. The employer and member contribution rates as of June 30, 2019 are as follows:

	Department	Members	
		Active	Retired
Family death benefit	\$1.76 monthly per active member	N/A	N/A
Supplemental family death benefit insured lives	N/A	\$2.25 biweekly	\$4.9 monthly
Contributing	\$.21 per \$100 of payroll	\$1.00 biweekly	N/A
Noncontributing	\$1.01 per \$100 of monthly retirement benefit	N/A	N/A

Water System contributions to the death benefits plan were \$2.3 million including administrative expenses of \$0.3 million for the fiscal year ended June 30, 2019.

The employer and member contribution rates as of June 30, 2018 are as follows:

	Department	Members	
		Active	Retired
Family death benefit	\$1.62 monthly per active member	N/A	N/A
Supplemental family death benefit insured lives	N/A	\$2.25 biweekly	\$4.9 monthly
Contributing	\$.22 per \$100 of payroll	\$1.00 biweekly	N/A
Noncontributing	\$11.01 per \$100 of monthly retirement benefit	N/A	N/A

Water System contributions to the death benefit plan were \$2.6 million including administrative expenses of \$.3 million for the fiscal year ended June 30, 2018.

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(e) Net OPEB Liability

The Water System reported a liability of \$161 million and \$176 million for its proportionate share of the net OPEB liability for retiree healthcare plan and the death benefit plan as of June 30, 2019 and 2018, respectively. The net OPEB liabilities for each of the plans was measured as of June 30, 2018 and 2017 and the total OPEB liability used to calculate the net OPEB liability was determined by actuarial valuations as of June 30, 2018 and 2017. The Water System's proportion of the net OPEB liability was based on the Water System's projected compensation for the year following the measurement date, relative to the projected compensation for the same period for both the Water System and the Power System. At June 30, 2019 and 2018, the Water System's proportion of the retiree healthcare plan and the death benefit plan net OPEB liabilities was 32.1% and 31.7%.

The following table shows the Water System's proportionate share of the net OPEB liability for each of the plans as of June 30, 2019. (amounts in thousands):

	<u>2019</u>	<u>2018</u>
OPEB liability for retiree healthcare plan	\$ 123,220	138,296
OPEB liability for death benefit plans	<u>37,472</u>	<u>37,852</u>
Net OPEB Liability	<u><u>\$ 160,692</u></u>	<u><u>176,148</u></u>

All assumptions are based on the results of an actuarial experience study for the period July 1, 2012–June 30, 2016.

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The total OPEB liability in the June 30, 2018 and 2017 actuarial valuations used for the Water System's June 30, 2019 and 2018 financial statements was determined using the following actuarial assumptions:

	Retiree Healthcare plan	Family Death Benefit	Supplemental Death Benefit	Insured Lives Benefit (Contributing Active Members)	Insured Lives Death Benefit (Noncontributing Members)
Cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age
Investment rate of return	7.25%	3.5%	3.5%	3.5%	3.5%
Inflation rate	3	3	3	3	3
Real across the board salary increases	0.5%	0.5%	0.5%	0.5%	0.5%
Projected salary increase	4.50 to 10%	4.50 to 10%	4.50 to 10%	4.50 to 10%	4.50 to 10%
Mortality table	RP-2014 mortality table reflected for mortality experience as of the measurement date				
		—	—	—	—
Medical cost trends:					
Non-Medicare medical plan	7.00, graded down to 4.5% over 10 years				
Medicare medical plans	6.50, graded down to 4.5% over 8 years	—	—	—	—
Dental and Medicare Part B	4.5%				
Member contribution rate	None	None	\$2.25 per biweekly period or \$4.90 per month if retired	\$1.00 per biweekly payroll period	None

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	Retiree Healthcare plan	Family Death Benefit	Supplemental Death Benefit	Insured Lives Benefit (Contributing Active Members)	Insured Lives Death Benefit (Noncontributing Members)
Department contribution rate	10.12%	\$1.62 per month	Any additional funds necessary to fund the benefits	\$0.22 per \$100 of payroll	\$1.05 per \$100 of monthly retirement benefit
Age and Service Requirement	<p>Tier 1 – Age 60 with 5 years of service; age 55 with 10 years of service in the last 12 years; any age with 30 years of service; or receiving permanent total disability benefits from the Plan.</p> <p>Tier 2 – Age 60 with 5 years of continuous service with the plan immediately prior to reaching eligibility; or age 60 with 10 years of service; or any age with 30 years of service; or receiving permanent total disability benefits from the Plan</p>	<p>Preretirement death of an active, full, contributing member at any age; or Postretirement death of a member receiving a monthly retirement from WPERP with at least five years of service at retirement</p>	<p>Preretirement death of an active, full, contributing member at any age; or Postretirement death of a member receiving a monthly retirement from WPERP</p>	<p>Any age with six months of continuous service. Preretirement death of an active, full, contributing member to WPERP</p>	<p>Death occurs after retirement and member was receiving a retirement monthly allowance from WPERP and had at least five years of service at retirement</p>

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	<u>Retiree Healthcare plan</u>	<u>Family Death Benefit</u>	<u>Supplemental Death Benefit</u>	<u>Insured Lives Benefit (Contributing Active Members)</u>	<u>Insured Lives Death Benefit (Noncontributing Members)</u>
Per Capita Cost Development	The assumed per capita claims cost by age is calculated using age based factors for retiree ranging from 90.3% to 123% and spouse ranging from 71.1% to 122.6% and applying these factors to premiums (Eligible spouses and survivors are not eligible for DWP dental subsidy)	—	—	—	—
Monthly benefit	Tier 1 – \$30.32 to \$1,751.18. Tier 2 \$30.32 to \$875.59	\$416 per month to each surviving child plus \$416 per month to eligible spouse	\$520 per month to each surviving child plus \$520 per month to eligible spouse	A single sum distribution equal to 14 times monthly salary	A single sum distribution equal to 14 times the member's full retirement allowance up to \$20000
Participation rate	97% for medical and 95% for dental	—	—	—	—

Mortality rates were based on the RP 2014 Healthy Annuitant Mortality Table with no age adjustments for male or females and set back one year for females, projected generationally with the two dimensional MP 2015 projection scale. The actuarial assumptions used in the June 30, 2018 and 2017 valuations were based on the long-term expected rate of return on OPEB plan investments was determined using a building block method in which best estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by

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adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table for each fund:

	<u>Targeted allocation</u>	<u>Long-term expected arithmetic real rate of return</u>
Retiree healthcare:		
Asset class	29 %	5.76 %
Domestic equity	19	7.25
International equity	25	1.74
Custom fixed income	8	4.37
Real estate	5	2.39
Real return	8	7.75
Private equity	5	3.50
	1	(0.46)
	<u>100 %</u>	
	<u>Targeted allocation</u>	<u>Long-term expected arithmetic real rate of return</u>
Death benefit:		
Fixed income	96 %	(0.82) %
Cash and cash equivalents	4	(0.46)
	<u>100 %</u>	

For the retiree healthcare fund, the discount rate used to measure the total OPEB liability was 7.25% for the years ended June 30, 2019 and 2018. The projection of cash flows used to determine the discount rate assumed that Department's contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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For the death benefit fund, the discount rate was determined to be 3.50%, which is equivalent to the 20 year municipal bond rate for the years ended June 30, 2019 and 2018. The fiduciary net position of this fund was not projected to cover all future benefit payments, and thus, the 20-year municipal bond rate was used to calculate the total OPEB liability.

(f) Sensitivity of Net OPEB Liability to Changes in the Discount Rate Rates

The following table represents the net OPEB liability of the Water System, calculated using the stated discount rate assumption as well as what the Water System's net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage-point higher than the current discount rate (amounts in thousands):

		June 30, 2019		
		1% decrease	Current	1% increase
Discount rate		6.25 %	7.25 %	8.25 %
Net OPEB liability – Retiree healthcare plan	\$	233,454	123,220	32,669
Discount rate		2.50 %	3.50 %	4.50 %
Net OPEB liability – Death benefit plan	\$	44,452	37,472	31,921

		June 30, 2018		
		1% decrease	Current	1% increase
Discount rate		6.25 %	7.25 %	8.25 %
Net OPEB liability – Retiree healthcare plan	\$	240,076	138,296	54,135
Discount rate		2.50 %	3.50 %	4.50 %
Net OPEB liability – Death benefit plan	\$	44,686	37,852	32,383

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(g) Sensitivity to Net OPEB Liability to Changes in Healthcare Cost Trend Rates

The following table represents the net OPEB liability of the Water System, calculated using the stated healthcare cost trend assumption as well as what the Water System's net OPEB liability would be if it were calculated using a healthcare cost trend that is one percentage point lower or one percentage point higher than the current healthcare cost trend rates (amounts in thousands):

		June 30, 2019		
		1% decrease	Current	1% increase
Net OPEB liability – Retiree healthcare plan	\$	21,378	123,220	259,977

* Current trend rates: 7.00% graded down to 4.50% over 10 years for non-Medicare medical plan costs; 6.50% graded down to 4.50% over 8 years for Medicare medical plan costs, and 4.00% all years for dental and Medicare Part B subsidy costs

There is no trend rate assumption used in valuing the death benefit plan.

		June 30, 2018		
		1% decrease	Current	1% increase
Net OPEB liability – Retiree healthcare plan	\$	42,745	138,296	265,971

* Current trend rates: 7.00% graded down to 4.50% over 10 years for non-Medicare medical plan costs; 6.50% graded down to 4.50% over 8 years for Medicare medical plan costs, and 4.50% all years for dental and Medicare Part B subsidy costs

There is no trend rate assumption used in valuing the death benefit plan.

(h) OPEB Plan Fiduciary Net Position

Detailed information about the Plan's fiduciary net position is available in the separately issued plan financial report. The OPEB plans' fiduciary net positions are determined based on the accrual basis of accounting, which is on the same basis of accounting as the Plan. OPEB plan investments are recorded at fair value except for short-term investments, which are recorded at amortized cost. Benefit payments include costs designed by the plan document and administrative expenses.

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(i) OPEB Expense and Deferred Outflows and Inflows of Resources Related to OPEB

For the year ended June 30, 2019, the Water System recognized OPEB expense of \$12,148 and \$2,843 for its proportionate share of the healthcare and death benefits plans, respectively. At June 30, 2018, the Water System recognized OPEB expense of \$19,000 and \$ 2,767 for its proportionate share of the healthcare and death benefits plans, respectively. At June 30, 2019, the Water System reported deferred outflows and inflows of resources related to OPEB Plans from the following sources:

	Retiree Healthcare Plan		Death Benefits Plan		Total	
	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources
Change in proportion and differences between employer category's contributions	\$ 1,558	1,547	384	106	1,942	1,653
Changes of assumptions	1,326	16,112	—	—	1,326	16,112
Net difference between projected and actual earnings on OPEB Plan Investments	—	27,529	477	—	477	27,529
Differences between expected and actual experience	—	12,104	29	1,230	29	13,334
	2,884	57,292	890	1,336	3,774	58,628
Employer contributions subsequent to the measurement date	33,518	—	2,937	—	36,455	—
Totals	\$ 36,402	57,292	3,827	1,336	40,229	58,628

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For the year ended June 30, 2018, the Water System recognized OPEB expense of \$19,000 and \$2,767 for its proportionate share of the healthcare and death benefits plans, respectively. At June 30, 2018, the Water System reported deferred outflows and inflows of resources related to OPEB Plans from the following sources:

	Retiree Healthcare Fund		Death Benefits Fund		Total	
	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources	Deferred outflows of resources	Deferred inflows of resources
Change in proportion and differences between employer category's contributions	\$ —	1,861	—	128	—	1,989
Changes of assumptions	—	19,155	263	—	263	19,155
Net difference between projected and actual earnings on OPEB Plan Investments	—	24,407	—	—	—	24,407
Differences between expected and actual experience		12,104	34	—	34	12,104
	—	57,527	297	128	297	57,655
Employer contributions subsequent to the measurement date	31,412	—	2,605	—	34,017	—
Totals	\$ 31,412	57,527	2,902	128	34,314	57,655

Contributions after the measurement date shown above will be recognized as deferred outflows of resources in the accompanying financial statements.

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Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense in future reporting periods as follows:

For the year ended June 30, 2019			
	Retiree Healthcare Plan	Death Benefits Plan	Total
Year ended June 30:			
2020	\$ (13,917)	(16)	(13,933)
2021	(13,917)	(16)	(13,933)
2022	(13,917)	(16)	(13,933)
2023	(7,743)	(82)	(7,825)
2024	(5,096)	(151)	(5,247)
Thereafter	182	(165)	17
	<u>\$ (54,408)</u>	<u>(446)</u>	<u>(54,854)</u>

For the year ended June 30, 2018			
	Retiree Healthcare Plan	Death Benefits Plan	Total
Year ended June 30:			
2019	\$ (11,687)	50	(11,637)
2020	(11,687)	50	(11,637)
2021	(11,687)	50	(11,637)
2022	(11,687)	50	(11,637)
2023	(5,585)	(16)	(5,601)
Thereafter	(5,194)	(15)	(5,209)
	<u>\$ (57,527)</u>	<u>169</u>	<u>(57,358)</u>

(j) Healthcare Reform Legislation

The Patient Protection and Affordable Care Act (PPACA) was signed into law on March 23, 2010. One key provision of the PPACA is the assessment of the excise tax on high cost plans beginning in 2018. Under this act, a 40% excise tax applies to plans with costs exceeding certain annual thresholds for non-Medicare retirees aged 55–64 (\$11,850 for single coverage, and \$30,950 for family coverage). For all other retirees, the thresholds in 2019 and 2018 were \$10,200 for single coverage and \$27,500 for family coverage. Significant uncertainties exist regarding the impact of the excise tax on high cost plans without further regulatory guidance. Management estimated the potential impact of this tax on the

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(In thousands)

liability is based on unadjusted thresholds and assuming the tax is shared between the Department and its participants in the same way that the current costs are shared. The estimated impact of the 40% excise tax provision on high cost plans beginning in 2018, under the healthcare reform, is reflected in all actuarial valuation reports after July 1, 2010.

(k) Disability Benefits

The Water System's allocated share of disability benefit plan costs and administrative expenses totaled \$5.6 million and \$9.8 million for fiscal years 2019 and 2018, respectively. Disability benefits are paid to active employees who qualify under the Plan's provisions and terminate with the employee's retirement.

(9) Other Long-Term Liabilities

The Water System has the following other long-term liabilities:

(a) Accrued Workers' Compensation Claims

Liabilities for unpaid workers' compensation claims are recorded at their net present value when they are probable of occurrence and the amount can be reasonably estimated. The liability is actuarially determined based on an estimate of the present value of the claims outstanding and an amount for claim events incurred but not reported based on the Water System's loss experience, less the amount of claims and settlements paid to date. The discount rate used to calculate the accrued workers' compensation liability as presented in the statements of net position was 2% at both June 30, 2019 and June 30, 2018. The Power System has third-party insurance coverage for workers' compensation claims over \$600,000.

Overall indicated reserves for workers' compensation claims for both the Water System and the Power System, undiscounted, have been estimated at \$88 million and \$120 million for both June 30, 2019 and 2018, respectively. Workers' compensation claims typically take longer than one year to settle and close out. The entire discounted liability is shown as long term on the statements of net position as of June 30, 2019 and 2018.

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Changes in the Department's undiscounted liability since June 30, 2016 are summarized as follows (amounts in thousands):

		June 30	
	2019	2018	2017
Balance at beginning of year	\$ 120,026	115,104	103,699
Current year claims and changes in estimates	(4,121)	34,292	37,501
Payments applied	(27,665)	(29,370)	(26,096)
Balance at end of year	<u>\$ 88,240</u>	<u>120,026</u>	<u>115,104</u>

The Water System's portion of the discounted accrued workers' compensation liability is estimated at \$34 million for both June 30, 2019 and 2018.

(10) Commitments and Contingencies

(a) Purchase Water Commitments

As a member of the Metropolitan Water District (Metropolitan), the Water System purchases water from Metropolitan pursuant to water supply purchase orders entered into with Metropolitan for specific periods. In January 2015, the Water System and Metropolitan executed a new Purchase Order for Imported Water Supply Agreement (the Purchase Order Agreement), which requires the Water System to purchase at least 2,033,134 acre feet of water over a 10-year period commencing on January 1, 2015 and expiring on December 31, 2024. Some of the key terms of the Purchase Order Agreement include the following: (a) the Water System's annual maximum Tier 1 allocation of water from Metropolitan is 335,663 acre feet per year, or 3,356,630 acre feet for the 10-year term of the Purchase Order Agreement; (b) any obligation to pay Metropolitan's Tier 2 supply rate will only be assessed if a member agency exceeds its total 10-year Tier 1 allocation. Under the previous purchase order agreement, Tier 2 costs were assessed on an annual basis, with no ability for member agencies to carry over unused Tier 1 allocation from one year to the next; (c) opportunity to reset the base period demand using a five year rolling average; and (d) an appeals process for agencies with unmet purchase commitments has been established. This will allow each acre foot of unmet purchase order commitment to be reduced by the amount of production from a local resource project that commences operation on or after January 1, 2014, which will allow member agencies who successfully develop local supplies, not to be charged if production of these supplies negatively impacts their minimum purchase order commitment. As of June 30, 2019, the Water System has purchased 1,062,232 acre feet from Metropolitan under the current Purchase Order Agreement. The Water System expects to fulfill the remaining commitment of 970,898 acre feet of water from Metropolitan over the next 5.5 years, which is estimated to cost \$1.102 billion, or approximately \$200 million per year.

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(b) Environmental Liabilities

The Water System follows GASB Statement No. 49, *Accounting and Financial Reporting for Pollution and Remediation Obligations*. This statement addresses accounting and financial reporting standards for pollution (including contamination) remediation obligations, which are obligations to address the current or potential detrimental effects of existing pollution by participating in pollution remediation activities such as site assessments and cleanups. The scope of the statement excludes pollution prevention or control obligations with respect to current operations, and future pollution remediation activities that are required upon retirement of an asset, such as landfill closure and postclosure care and nuclear power plant decommissioning.

The Water System estimates its environmental liabilities using the expected cash flow method as required by GASB 49. This method estimates the current value of outlays expected to be incurred measured as a sum of the probability weighted amounts in a range of possible estimated amounts. The Water System's environmental liabilities consist of underground storage tanks that require remediation work. The Water System is working with the Los Angeles Regional Water Quality Control Board and the Lahontan Regional Quality Control Board which have jurisdiction over these sites. The Water System's estimated liability for these sites is \$12.4 and \$8.4 million for the years ended June 30, 2019 and 2018, respectively, and includes remediation and ongoing operation and maintenance costs where estimable. This liability is recorded as part of the Water System's accrued expenses. These estimates are reviewed and updated annually.

(c) Surface Water Treatment Rule

The State of California Surface Water Treatment Rule (SWTR) imposed increased filtration requirements at any open distribution reservoir exposed to surface water runoff. The Water System had four major reservoirs in its system subject to SWTR: Upper and Lower Hollywood, Lower Stone Canyon, and Encino. To comply with SWTR, the Water System designed projects to remove these reservoirs from regular service through construction of larger pipelines and alternate covered storage facilities.

The Hollywood Water Quality Improvement Project was completed in July 2002. Upper and Lower Hollywood Reservoirs were removed from service and functionally replaced by two 30 million gallon tanks and additional pipelines. Construction of the Encino Water Quality Improvement Project was completed in December 2007. Construction of the Lower Stone Canyon Water Quality Improvement Project was completed in November 2008. Management believes the Water System is now in compliance with the SWTR.

(d) Stage 2 Disinfectants and Disinfection Byproduct Rule

In January 2006, the Environmental Protection Agency (EPA) published the Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBP Rule) in the federal register. The Stage 2 DBP Rule strengthens public health protection for customers by tightening compliance monitoring requirements for two groups of disinfection by products (DBPs): trihalomethanes, and haloacetic acids. DBPs form when naturally occurring materials in water (e.g., decomposing plant material) combine with chemicals added to disinfect the water. DBPs are associated with cancer.

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In order to comply with the requirements of the Stage 2 DBP Rule, the Water System was required to change its primary disinfectant from chlorine to chloramines, a less reactive disinfectant, by April 1, 2014. In order to convert to chloramines, the Department constructed an ultraviolet filtration plant, two chloramination stations, three ammoniation stations, two chlorination stations, and has and will continue to install mixers in tanks and reservoirs. The Water System achieved compliance with the Stage 2 DBP Rule before the April 2014 compliance date. Additional treatment facilities will be constructed, as groundwater sources are improved and/or expanded. The cost of Stage 2 DBP compliance-related engineering studies and construction activities is expected to be approximately \$383.7 million at completion. The actual expenditures to date are \$330.1 million.

(e) Long-Term 2 Enhanced Surface Water Treatment Rule

In January 2006, the EPA published the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) in the federal register. The LT2 builds upon the Safe Drinking Water Act and other earlier water quality rules to strengthen protection against microbial contaminants, especially cryptosporidium. Cryptosporidium is a significant concern in drinking water because it contaminates most watersheds used for the collection of drinking water and can cause gastrointestinal illness. The Department has six reservoirs in its system subject to LT2: Ivanhoe, Silver Lake, Elysian, Upper Stone Canyon, Santa Ynez, and Los Angeles. In order to comply with the requirements of the LT2, the Department is proposing to treat, cover, bypass, or build alternate covered storage for the aforementioned reservoirs and to install additional pipelines and related facilities. Santa Ynez, Elysian, and Upper Stone Canyon Reservoirs have now been covered, and Silver Lake and Ivanhoe Reservoirs have been removed from service, and Upper Stone Canyon is out of service while the cover is under construction. An ultraviolet treatment facility filtration plant is under construction at Los Angeles Reservoir. The cost of LT2 compliance-related engineering studies and construction activities is expected to reach \$1.516 billion at completion. The actual cost spent to date has been \$1.178 billion.

(f) Owens Lake

Historically, the Owens River was the main source of water for Owens Lake. Diversion of water from the river, first by farmers in the Owens Valley and then by the City, resulted in the lake drying up. The exposed lakebed became a significant source of particulate matters of 10 micrometers or less in diameter (PM10), causing the U.S. EPA to classify the southern Owens Valley as a serious nonattainment area for PM10 in 1991. The EPA required the Great Basin Unified Air Pollution Control District (District) to prepare a State Implementation Plan (SIP) to bring the region into compliance with the federal Clean Air Act ambient air quality standards by 2006. In 1998, the Department and District entered into a Memorandum of Agreement to mitigate PM10 emission from Owens Lake to bring the region into compliance.

In the intervening years, the Water System has constructed facilities at the Lake in Phases responding to a series of supplemental control requirements. In November 2014, the Department reached an agreement with the District. The agreement was memorialized in a stipulated judgment that provides several benefits to the Department, including provisions: (1) permitting the use of less water intensive and completely waterless measures to control dust at the lakebed, resulting in more water available for

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(In thousands)

customer use; (2) limiting the City's liability for dust mitigation to no more than 53.4 square miles; (3) forming an Owens Lake Scientific Advisory Panel; (4) addressing the discovery of Native American artifacts on or around the lakebed; and (5) allowing dust control measures to be delayed without a penalty if more are discovered. In accordance with the agreement, the previous SIP was revised and calls for the region to be in compliance with the federal Clean Air Act by December 31, 2017.

The Water System completed construction of the Owens Lake Dust Mitigation Program – Phase 9/10 Project by the compliance deadline of December 31, 2017. The Phase 9/10 Project entailed mitigating dust emissions from an additional 3.62 square miles of Owens Lake playa through use of Gravel Blanket, Managed Vegetation, and Shallow Flooding Best Available Control Measures at a cost of \$268 million. At completion of Phase 9/10, the Department has now controlled dust emission on 48.6 square miles of Owens Lake playa resulting in 96.899% overall reduction in PM10 emissions. All improvements made to Owens Lake as part of dust mitigation efforts are recorded as Utility Plant in the year made.

(g) *Litigation*

A number of claims and suits are pending against the Water System for alleged damages to persons and property and for other alleged liabilities arising out of its operations. In the opinion of management, any ultimate liability, which may arise from these actions, is not expected to materially impact the Water System's net position, changes in net position, or cash flows.

(h) *Risk Management*

The Water System is subject to certain business risks common to the utility industry. The majority of these risks are mitigated by external insurance coverage obtained by the Water System. For other significant business risks, however, the Water System has elected to self-insure. Management believes that exposure to loss arising out of self-insured business risks will not materially impact the Water System's net position, changes in net position, or cash flows.

(i) *Credit Risk*

Financial instruments, which potentially expose the Water System to concentrations of credit risk, consist primarily of retail receivables. The Water System's retail customer base is concentrated among commercial, industrial, residential, and governmental customers located within the City. Although the Water System is directly affected by the City's economy, management does not believe significant credit risk exists at June 30, 2019 and 2018, except as provided in the allowance for losses. The Water System manages its credit exposure by requiring credit enhancements from certain customers and through procedures designed to identify and monitor credit risk.

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(In thousands)

(11) Subsequent Events

(a) *Bond Sale*

In July 2019, the Water System issued \$229.77 million of variable rate bonds, 2019 Series A. The net proceeds of \$229.56 million were used to refund all of the outstanding debt on the Water System 2009 Series B and to fund capital improvements.

(b) *FBI Investigation*

In July 2019, the Federal Bureau of Investigation began conducting an investigation of the Department and the Office of the City Attorney. The Department is cooperating fully with the investigators. The Department has been requested by the investigating agency to exercise confidentiality with respect to the investigation. The Department can generally state that the search warrants served by the Federal Bureau of Investigation on the Department and the Office of the City Attorney relate to issues that have arisen over the class action litigation and settlement regarding the Department's billing system and the lawsuit against PricewaterhouseCoopers. Based on the Department's understanding of the nature of the investigation and the current status of the lawsuits relating to the new billing system, the Department does not believe that the investigation or the billing-system-related lawsuits will have a material adverse effect on the Department's operations or financial position.

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Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of the Water System's Proportionate Share of the Net Pension Liability

Last 10 years*

(Amounts in thousands other than percentages)

	<u>2019**</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Water System's proportion of the net pension liability collective	32.100 %	31.748 %	31.892 %	32.603 %	32.344 %
Water System's proportionate share of the collective net pension liability	\$ 292,447	426,444	698,878	373,024	411,485
Water System's covered-employee payroll	306,316	283,300	274,851	273,607	265,192
Water System's proportionate share of the collective net pension liability as a % of covered payroll	95.47 %	150.53 %	254.27 %	136.34 %	155.16 %
Pension plan's fiduciary net position as a percentage of total pension liability	93.10 %	89.39 %	82.17 %	89.80 %	88.41 %

* The Water System implemented GASB Statement No. 68, *Accounting and Financial Reporting for Pensions*—an amendment to GASB Statement 27, effective July 1, 2013; therefore, no information is available for the measurement periods prior to June 30, 2013.

** The measurement period for each year presented is on a one-year lag and thus the measurement periods are June 30, 2014–2018 for the Water Systems' fiscal years June 30, 2015–2019.

See accompanying independent auditors' report.

**DEPARTMENT OF WATER AND POWER
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Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of the Department's Pension Contributions *

Last 10 fiscal years

(Amounts in thousands other than percentages)

Reporting date for Water System June 30 ⁽¹⁾	Actuarially determined contributions ⁽²⁾	Contributions in relation to the actuarially required contributions ⁽³⁾	Contributions deficiency (excess)	Covered payroll	Contributions as a percentage of covered employee payroll
2019	\$ 408,750,192	410,165,124	(1,414,932)	1,028,212,002	39.89 %
2018	425,512,236	433,412,569	(7,900,333)	953,635,670	45.45
2017	403,780,319	391,717,359	12,062,960	892,331,196	43.90
2016	368,599,924	362,359,894	6,240,030	861,818,854	42.05
2015	387,464,759	376,902,022	10,562,737	839,213,254	44.91
2014	387,823,989	384,265,892	3,558,097	819,923,866	46.87
2013	376,667,610	368,426,348	8,241,262	817,421,028	45.07
2012	336,874,865	321,688,919	15,185,946	819,923,866	39.23
2011	304,431,910	286,699,384	17,732,526	791,760,493	36.21
2010	200,578,728	201,034,807	(456,079)	767,912,436	26.18

⁽¹⁾ The measurement date under GASB Statement No. 68 is on a one-year lag.

⁽²⁾ All actuarially determined contributions through June 30, 2014 were determined as the annual requirement under GASB Statements No. 25 and No. 27.

⁽³⁾ Contributions do not include administrative expenses paid to the Plan.

* Information in this schedule was not separately available for the Water System.

See accompanying independent auditors' report.

**DEPARTMENT OF WATER AND POWER
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Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of Water System's Proportionate Share of the Net OPEB Liability – Retiree Healthcare Plan

Last 10 fiscal years

(In thousands)

Reporting date of employer	Measurement date	Proportionate share of net OPEB liability	Proportionate share of net OPEB liability	Projected compensation	Covered payroll	Proportionate share of the net OPEB liability as a percentage of covered payroll	Plan's fiduciary net position as a percentage of the total OPEB liability
June 30, 2019	June 30, 2018	32.12 %	\$ 123,220	\$ 344,835	\$ 306,316	40.23 %	84.46 %
June 30, 2018	June 30, 2017	31.75	138,296	314,885	283,300	48.82	81.44

See accompanying independent auditors' report.

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Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of Water System's Proportionate Share of the Net OPEB Liability – Death Benefit Plan

Last 10 fiscal years

(In thousands)

Reporting date of employer	Measurement date	Proportionate share of net OPEB liability	Proportionate share of net OPEB liability	Projected compensation	Covered payroll	Proportionate share of the net OPEB liability as a percentage of covered payroll	Plan's fiduciary net position as a percentage of the total OPEB liability
June 30, 2019	June 30, 2018	32.12 %	\$ 37,472	\$ 344,835	\$ 306,316	12.23 %	18.91 %
June 30, 2018	June 30, 2017	31.75	37,852	314,885	283,300	13.36	18.79

See accompanying independent auditors' report.

**DEPARTMENT OF WATER AND POWER
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Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of Department Contributions – Retiree Healthcare Plan*

Last 10 fiscal years

(Amounts in thousands other than percentages)

Reporting date for the Water System June 30	Actuarially determined contributions ⁽¹⁾	Contributions in relation to the actuarially required contributions ⁽²⁾	Contributions deficiency (excess)	Covered payroll	Contributions as a percentage of covered employee payroll
2019	\$ 80,851	\$ 101,595	\$ (20,744)	\$ 1,028,212	9.88
2018	85,339	95,233	(9,894)	953,635	9.99
2017	93,920	90,310	3,610	892,332	10.12
2016	61,971	79,896	(17,925)	861,819	9.27
2015	70,748	78,497	(7,749)	839,214	9.35
2014	58,453	74,106	(15,653)	819,924	9.04
2013	36,908	67,563	(30,655)	817,421	8.27
2012	40,095	101,721	(61,626)	805,607	12.63
2011	66,188	140,133	(73,945)	791,760	17.70
2010	56,294	160,237	(103,943)	767,912	20.87

⁽¹⁾ All actuarially determined contributions through June 30, 2016 were determined as the annual requirement under GASB Statements No. 43 and No. 45.

⁽²⁾ Contributions do not include administrative expenses paid to the Plan.

* Information in this schedule was not separately available for the Water System.

See accompanying independent auditors' report.

**DEPARTMENT OF WATER AND POWER
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WATER SYSTEM**

Required Supplementary Information

June 30, 2019

(Unaudited)

Schedule of Department Contributions – Death Benefit Plan **

Last 10 fiscal years

(Amounts in thousands other than percentages)

Reporting date for the Water System June 30	Actuarially determined contributions ⁽¹⁾	Contributions in relation to the actuarially required contributions	Contributions deficiency (excess)	Covered payroll	Contributions as a percentage of covered employee payroll
2019	\$ 7,260	7,260	—	1,028,212	0.71 %
2018	7,137	7,137	—	953,636	0.75 %
2017	7,138	7,138	—	892,332	0.80 %

⁽¹⁾ Contributions do not include administrative expenses paid to the Plan.

** Information in this schedule was not available separately for the Water System.

See accompanying independent auditors' report.

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APPENDIX B

DEMOGRAPHIC AND ECONOMIC INFORMATION FOR THE CITY OF LOS ANGELES

The City of Los Angeles (the “City”) is the second most populous city in the United States with an estimated 2019 population of 4.04 million persons. Los Angeles is the principal city of a metropolitan region stretching from the City of Ventura to the north, the City of San Clemente to the south, the City of San Bernardino to the east, and the Pacific Ocean to the west.

Founded in 1781, Los Angeles was for its first century a provincial outpost under successive Spanish, Mexican and American rule. The City experienced a population boom following its linkage by rail with San Francisco in 1876. Los Angeles was selected as the Southern California rail terminus because its natural harbor seemed to offer little challenge to San Francisco, home of the railroad barons. But what the region lacked in commerce and industry, it made up in temperate climate and available real estate, and soon tens and then hundreds of thousands of people living in the Northeastern and Midwestern United States migrated to new homes in the region. Agricultural and oil production, followed by the creation of a deep water port, the opening of the Panama Canal, and the completion of the City-financed Owens Valley Aqueduct to provide additional water, all contributed to an expanding economic base. The City’s population climbed to 50,000 persons in 1890, and then swelled to 1.5 million persons by 1940. During this same period, the automobile became the principal mode of American transportation, and the City developed as the first major city of the automotive age. Following World War II, the City became the focus of a new wave of migration, with its population reaching 2.4 million persons by 1960.

The City and its surrounding metropolitan region have continued to experience growth in population and in economic diversity. The City’s 470 square miles contain 11.5% of the area of the County of Los Angeles, California (the “County”) and approximately 39% of the population of the County. Tourism and hospitality, professional and business services, direct international trade, entertainment (including motion picture and television production), and wholesale trade and logistics all contribute significantly to local employment. Emerging industries are largely technology driven, and include biomedical technology, digital information technology, environmental technology and aerospace. The County is a top-ranked county in manufacturing in the nation. Important components of local industry include apparel, computer and electronic components, transportation equipment, fabricated metal, and food processing. Fueled by trade with the Pacific Rim countries, the Ports of Los Angeles and Long Beach combined are the busiest container ports in the nation. As home to the film, television and recording industries, as well as important cultural facilities, the City serves as a principal global cultural center.

Economic and Demographic Information

Although the economic and demographic information provided below has been collected from sources that the City considers to be reliable, the City has made no independent verification of the information provided by non-City sources and the City takes no responsibility for the completeness or accuracy thereof. The current state of the economy of the City, State of California (the “State”) and the United States of America may not be reflected in the data discussed below, because the information below generally reflects annual data for comparative purposes. Such information is generally in relation to dates and periods prior to the economic impact of the COVID-19 pandemic and the resulting measures instituted to slow it. This information is provided as general background. A material deterioration in domestic or global economic conditions, including as a result of the ongoing COVID-19 pandemic, could have a negative effect on the economy of the City, the State and the United States of America. A material deterioration in domestic or global economic conditions, including as a result of the ongoing COVID-19 pandemic, could have a negative effect on the economy of the City, the County, the State and the United States of America.

Population

The table below summarizes City, County, and State population, estimated as of January 1 of each year.

Table 1
CITY, COUNTY AND STATE POPULATION STATISTICS

	City of Los Angeles	Annual Growth Rate ⁽¹⁾	County of Los Angeles	Annual Growth Rate ⁽¹⁾	State of California	Annual Growth Rate ⁽¹⁾
2000 ⁽¹⁾	3,694,742	–	9,519,330	–	33,873,086	–
2005 ⁽¹⁾	3,769,131	0.40%	9,816,153	0.62%	35,869,173	1.18%
2010 ⁽¹⁾	3,792,621	0.12	9,818,605	0.00	37,253,956	0.77
2015 ⁽¹⁾	3,954,715	0.85	10,155,753	0.69	38,952,462	0.91
2016	3,981,283	0.67	10,185,851	0.30	39,214,803	0.67
2017	4,015,087	0.85	10,226,920	0.40	39,504,609	0.74
2018	4,038,313	0.58	10,254,658	0.27	39,740,508	0.60
2019	4,040,079	0.04	10,253,716	(0.01)	39,927,315	0.47

⁽¹⁾ For five-year time series, figures represent average annual growth rate for each of the five years.

Sources: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties, and the State, 2001–2010, with 2000 and 2010 Census Counts, Sacramento, California, November 2012. State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2011–2019, with 2010 Census Benchmark, Sacramento, California, May 2019.

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Industry and Employment

The following table summarizes the average number of employed and unemployed residents of the City and the County, based on the annual “benchmark,” an annual revision process in which monthly labor force and payroll employment data, which are based on estimates, are updated based on detailed tax records. The “benchmark” data is typically released in March for the prior calendar year.

Table 2
ESTIMATED AVERAGE ANNUAL EMPLOYMENT AND
UNEMPLOYMENT OF RESIDENT LABOR FORCE⁽¹⁾

Civilian Labor Force	2015	2016	2017	2018	2019 ⁽²⁾
City of Los Angeles					
Employed	1,872,300	1,927,600	1,965,300	1,982,600	1,988,500
Unemployed	141,100	106,900	98,800	97,600	92,900
Total	2,013,400	2,034,500	2,064,100	2,080,200	2,81,300
County of Los Angeles					
Employed	4,659,700	4,776,700	4,853,800	4,896,500	4,894,300
Unemployed	330,100	264,800	242,700	239,800	227,300
Total	4,989,800	5,041,400	5,096,500	5,136,300	5,121,600
Unemployment Rates					
City	7.0%	5.3%	4.8%	4.7%	4.5%
County	6.6	5.3	4.8	4.7	4.4
State	6.2	5.5	4.8	4.2	4.0
United States	5.3	4.9	4.4	3.9	3.7

⁽¹⁾ March 2018 Benchmark report as of January 28, 2020; not seasonally adjusted.

⁽²⁾ March 2019 Benchmark report as of March 13, 2020; not seasonally adjusted.

Note: Based on surveys distributed to households; not directly comparable to Industry Employment data reported in Table 3.

Source: California Employment Development Department, Labor Market Information Division for the State and County; U.S. Bureau of Labor, Department of Labor Statistics for the U.S.

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The California Employment Development Department has reported preliminary unemployment figures for April 2020 of 16.1% statewide, 20.3% for the County and 20.7% for the City (not seasonally adjusted). Unemployment claims have continued to rise in the City, State, County and the United States in May 2020. These increases are expected to be reflected in future official reports of such statistics.

The following table summarizes the California Employment Development Department's estimated average annual employment for the County, which includes full-time and part-time workers who receive wages, salaries, commissions, tips, payment-in-kind, or piece rates. Separate figures for the City are not maintained. Percentages indicate the percentage of the total employment for each type of employment for the given year. For purposes of comparison, the most recent employment data for the State is also summarized.

Table 3
LOS ANGELES COUNTY
ESTIMATED INDUSTRY EMPLOYMENT AND LABOR FORCE ⁽¹⁾

	County of Los Angeles		State of California	
	2018	% of Total	2018	% of Total
Agricultural	4,800	0.1%	424,200	2.4%
Mining and Logging	1,900	0.0	22,900	0.1
Construction	146,000	3.2	859,600	4.9
Manufacturing	343,700	7.6	1,325,400	7.5
Trade, Transportation and Utilities	850,900	18.8	3,051,600	17.3
Information	217,400	4.8	543,700	3.1
Financial Activities	223,000	4.9	836,300	4.8
Professional and Business Services	620,000	13.7	2,663,700	15.1
Educational and Health Services	823,600	18.2	2,726,500	15.5
Leisure and Hospitality	534,300	11.8	1,986,100	11.3
Other Services	159,700	3.5	572,100	3.3
Government	589,600	13.1	2,587,400	2.4
Total ⁽²⁾	4,514,900	100.0%	17,599,400	100.0%

(1) The California Economic Development Department has converted employer records from the Standard Industrial Classification coding system to the North American Industry Classification System.

(2) May not add due to rounding.

Note: Based on surveys distributed to employers; not directly comparable to Civilian Labor Force data reported in Table 2.

Source: California Employment Development Department, Labor Market Information Division. Based on March 2018 Benchmark report released June 21, 2019.

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Major Employers

The estimated top 25 major non-governmental employers in the County in 2019 are listed in the table below. Separate estimates for the City are not available. Based on these estimates, the top 25 major non-governmental employers represented 6.1% of the labor force.

Table 4
LOS ANGELES COUNTY
2019 MAJOR NON-GOVERNMENTAL EMPLOYERS

<u>Employer</u>	<u>Product/Service</u>	<u>Employees</u>
Kaiser Permanente Southern California	Nonprofit health care plan	40,309
University of Southern California	Private university	21,710
Northrop Grumman Corp.	Defense contractor	18,000 ⁽¹⁾
Providence Health & Services Southern California	Health care	15,952
Target Corp.	Retailer	15,000
Cedars-Sinai	Health System	14,713
Allied Universal	Security professionals	13,972
Ralphs/Food 4 Less (Kroger Co. Division)	Grocery retailer	13,271
Walt Disney Co.	Media and entertainment	13,000 ⁽¹⁾
NBC Universal	Media and entertainment	12,000
AT&T	Telecommunications, DirecTV, cable, satellite and television provider	11,500 ⁽¹⁾
Home Depot	Home improvement specialty retailer	11,200 ⁽¹⁾
Albertsons/Vons/Pavilions	Grocery retailer	10,200 ⁽¹⁾
California Institute of Technology	Private university, operator of Jet Propulsion Laboratory	9,015
Boeing	Aerospace and defense, commercial jetliners, space and security	9,000 ⁽¹⁾
UPS	Logistics, transportation and freight	8,417
Wells Fargo Bank, N.A.	Diversified financial services	8,263
ABM Industries Inc.	Facility services, energy solutions, commercial cleaning, maintenance and repair	8,000 ⁽¹⁾
Bank of America Corp.	Banking and financial services	7,500
FedEx Corp.	Shipping and logistics	7,000 ⁽¹⁾
City of Hope	Treatment and research center for cancer, diabetes and other life-threatening diseases	6,350
Dignity Health	Health care	6,000
Space Exploration Technologies Corp (SpaceX)	Rockets and spacecraft	6,000 ⁽¹⁾
Children's Hospital of Los Angeles	Hospital	6,000
Raytheon Co.	Aerospace and defense	5,800

⁽¹⁾ Business Journal estimate.

Source: Los Angeles Business Journal, Weekly Lists, originally published August 26, 2019.

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The estimated top 25 major governmental employers in the County in 2019 are listed in the table below. Separate estimates for the City are not available. Based on these estimates, the top 25 major governmental employers represented 8.5 % of the labor force.

Table 5
LOS ANGELES COUNTY
2019 LARGEST PUBLIC SECTOR EMPLOYERS

Employer	Employees
Los Angeles County	111,805
Los Angeles Unified School District	63,576
University of California, Los Angeles	48,736
U.S. Government – Federal Executive Board ⁽¹⁾	48,000
City of Los Angeles ⁽²⁾	33,760
State of California ⁽³⁾	29,700
Long Beach Unified School District	12,511
Los Angeles County Metropolitan Transportation Authority	9,817
Los Angeles Department of Water and Power (LADWP)	9,400
Los Angeles Community College District	6,984
City of Long Beach	4,852
California State University, Northridge	4,117
Los Angeles World Airports (LAWA)	3,668
California State University, Los Angeles	3,079
California State University, Long Beach	3,045
Pomona Unified School District	2,980
Montebello Unified School District	2,597
California State Polytechnic University, Pomona	2,466
Compton Unified School District	2,293
City of Pasadena	2,175
City of Santa Monica	2,170
Mt. San Antonio Community College District	2,062
City of Glendale	2,025
William S. Hart Union High School District	1,960
Santa Monica Community College District	1,919

⁽¹⁾ Excludes law enforcement and judiciary employees

⁽²⁾ Excludes proprietary departments (LADWP, LAWA, Port of LA))

⁽³⁾ Excludes education employees

Source: Los Angeles Business Journal, Weekly Lists, originally published August 26, 2019.

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Personal Income

The U.S. Census Bureau defines personal income as the income received by all persons from all sources, and is the sum of “net earnings,” rental income, dividend income, interest income, and transfer receipts. “Net earnings” is defined as wages and salaries, supplements to wages and salaries, and proprietors’ income, less contributions for government social insurance, before deduction of personal income and other taxes.

The following table summarizes the latest available estimate of personal income for the County, State and United States.

Table 6 COUNTY, STATE AND U.S. PERSONAL INCOME		
Year and Area	Personal Income (thousands of dollars)	Per Capita Personal Income ⁽¹⁾ (dollars)
2014		
County ⁽²⁾	\$ 524,858,923	\$52,233
State ⁽³⁾	2,021,038,500	52,324
United States ⁽³⁾	14,982,715,000	47,058
2015		
County ⁽²⁾	\$ 560,086,671	\$55,470
State ⁽³⁾	2,171,947,400	55,758
United States ⁽³⁾	15,709,242,000	48,978
2016		
County ⁽²⁾	\$ 578,154,382	\$57,127
State ⁽³⁾	2,263,889,800	57,739
United States ⁽³⁾	16,111,636,000	49,870
2017		
County ⁽²⁾	\$ 597,597,561	\$59,058
State ⁽³⁾	2,370,112,400	60,156
United States ⁽³⁾	16,870,106,000	51,885
2018		
County ⁽²⁾	\$ 628,808,732	\$62,224
State ⁽³⁾	2,514,129,300	63,557
United States ⁽³⁾	17,813,035,000	54,446
⁽¹⁾ Per capita personal income was computed using Census Bureau midyear population estimates. Per capita personal income is total personal income divided by total midyear population. Estimates for 2014 to 2018 reflect midyear state population estimates available as of December 2018 and county population estimates as of March 2019. ⁽²⁾ Last updated: November 14, 2019 – new statistics for 2018; revised statistics for 2014–2017. ⁽³⁾ Last updated: September 24, 2019 – new statistics for 2014–2018.		
Source: U.S. Bureau of Economic Analysis, “Table SAINC1: Personal Income Summary” and “Table CINCA1: Personal Income Summary” (accessed January 28, 2020).		

Retail Sales

As the largest city in the County, the City accounted for \$46.4 billion (or 29.2%) of the total \$159.3 billion in County taxable sales for 2017. The following table sets forth a history of taxable sales for the City for calendar years 2013 through 2017, that being the last full year for which data is currently available.

Table 7
CITY OF LOS ANGELES
TAXABLE SALES
(in thousands)

	2013	2014	2015	2016	2017
Motor Vehicle and Parts Dealers	\$3,983,625	\$4,158,168	\$4,616,450	\$4,769,093	\$4,622,056
Home Furnishings and Appliance Stores	1,683,805	1,725,981	1,826,089	1,945,181	1,961,526
Bldg. Materials and Garden Equip. and Supplies	2,086,608	2,179,954	2,335,497	2,384,196	2,473,704
Food and Beverage Stores	2,444,701	2,582,338	2,718,199	2,781,424	2,909,256
Gasoline Stations	4,954,380	4,822,894	4,252,397	3,670,450	3,973,137
Clothing and Clothing Accessories Stores	3,032,886	3,102,222	3,190,617	3,201,152	3,211,610
General Merchandise Stores	2,873,530	2,899,454	2,725,354	2,500,015	2,625,576
Food Services and Drinking Places	6,946,625	7,534,764	8,194,963	8,775,092	9,273,851
Other Retail Group	3,943,616	3,969,898	4,112,670	4,229,201	4,292,027
Total Retail and Food Services	31,949,776	32,975,673	33,972,239	34,355,804	35,342,745
All Other Outlets	9,806,938	10,480,659	10,074,458	10,624,426	11,140,035
TOTAL ALL OUTLETS	\$41,756,714	\$43,456,334	\$44,046,697	\$44,980,230	\$46,482,780
Year-over-year growth	4.1%	4.1%	1.4%	2.1%	3.3%

Source: 2013-2016: California State Board of Equalization, Research and Statistics Division.
2017: California Department of Tax and Fee Administration, Research and Statistics

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Land Use

The following table, derived from data maintained by the Los Angeles County Assessor, indicates various land uses within the City based on assessed valuation and the number of parcels.

Table 8
CITY OF LOS ANGELES
ASSESSED VALUATION AND PARCELS BY LAND USE

	2018-19 Assessed Valuation ⁽¹⁾	% of Total	No. of Parcels	% of Total
<u>Non-Residential</u>				
Commercial Office	\$86,930,913,906	14.77%	36,014	4.56%
Vacant Commercial	2,302,454,891	0.39	1,312	0.17
Industrial	41,062,872,143	6.98	19,847	2.51
Vacant Industrial	1,886,480,525	0.32	4,077	0.52
Recreational	2,384,310,500	0.41	773	0.10
Government/Social/Institutional	3,511,301,099	0.60	3,666	0.46
Miscellaneous	326,228,908	0.06	1,766	0.22
Subtotal Non-Residential	\$138,404,561,972	23.51%	67,455	8.54%
<u>Residential</u>				
Single Family Residence	\$304,553,516,361	51.74%	499,971	63.33%
Condominium/Townhouse	40,213,862,375	6.83	89,111	11.29
Mobile Homes and Lots	151,428,434	0.03	3,508	0.44
Mobile Home Park	214,563,948	0.04	93	0.01
2-4 Residential Units	32,665,399,511	5.55	74,968	9.50
5+ Residential Units/Apartments	69,278,236,137	11.77	35,472	4.49
Vacant Residential	3,194,995,356	0.54	18,874	2.39
Subtotal Residential	\$450,272,002,122	76.49%	721,997	91.46%
Total	\$588,676,564,094	100.00%	789,452	100.00%

⁽¹⁾ Local Secured Assessed Valuation, excluding tax-exempt property.

Source: California Municipal Statistics, Inc.

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Residential Value and Construction Activity

The following table indicates the array of assessed valuation for single family residential properties in the City.

Table 9
CITY OF LOS ANGELES
PER PARCEL ASSESSED VALUATION OF SINGLE FAMILY RESIDENTIAL PROPERTIES

	No. of Parcels	2018-19 Assessed Valuation	Average Assessed Valuation	Median Assessed Valuation
Single Family Residential Properties	499,971	\$304,553,516,361	\$609,142	\$378,520

2017-18 Assessed Valuation	No. of Residential Parcels ⁽¹⁾	% of Total	Cumulative % of Total	Total Valuation	% of Total	Cumulative % of Total
\$0 - \$49,999	8,941	1.788%	1.788%	\$ 319,202,641	0.105%	0.105%
\$50,000 - \$99,999	23,542	4.709	6.497	1,760,188,256	0.578	0.683
\$100,000 - \$149,999	24,333	4.867	11.364	3,045,201,951	1.000	1.683
\$150,000 - \$199,999	32,418	6.484	17.848	5,705,632,836	1.873	3.556
\$200,000 - \$249,999	40,876	8.176	26.024	9,190,886,848	3.018	6.574
\$250,000 - \$299,999	47,184	9.437	35.461	12,961,350,432	4.256	10.830
\$300,000 - \$349,999	49,883	9.977	45.438	16,184,838,648	5.314	16.144
\$350,000 - \$399,999	51,062	10.213	55.651	19,119,553,156	6.278	22.422
\$400,000 - \$449,999	33,491	6.699	62.350	14,222,288,060	4.670	27.092
\$450,000 - \$499,999	26,415	5.283	67.633	12,530,008,080	4.114	31.206
\$500,000 - \$549,999	22,213	4.443	72.076	11,646,431,391	3.824	35.030
\$550,000 - \$599,999	18,741	3.748	75.824	10,758,158,604	3.532	38.563
\$600,000 - \$649,999	14,620	2.924	78.748	9,124,005,740	2.996	41.558
\$650,000 - \$699,999	12,676	2.535	81.284	8,545,905,680	2.806	44.365
\$700,000 - \$749,999	10,888	2.178	83.461	7,883,489,064	2.589	46.953
\$750,000 - \$799,999	9,222	1.845	85.306	7,039,515,626	2.344	49.297
\$800,000 - \$849,999	8,048	1.610	86.916	6,631,455,424	2.177	51.475
\$850,000 - \$899,999	6,895	1.379	88.295	6,027,871,010	1.979	53.454
\$900,000 - \$949,999	6,714	1.343	89.638	6,207,851,682	2.038	55.492
\$950,000 - \$999,999	4,914	0.983	90.620	4,788,093,492	1.572	57.064
\$1,000,000 and greater	46,895	9.380	100.000	130,761,587,740	42.936	100.000
Total	499,971	100.000%		\$304,553,516,361	100.000%	

⁽¹⁾ Improved single family residential parcels. Excludes condominiums and parcels with multiple family units.

Source: California Municipal Statistics, Inc.

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The table below provides a summary of building permits issued by the City by calendar year.

Table 10
CITY OF LOS ANGELES
BUILDING PERMIT VALUATIONS AND NEW UNITS

	2014	2015	2016	2017	2018
Valuation ⁽¹⁾	\$6,416	\$6,808	\$6,822	\$7,924	\$8,654
Residential ⁽²⁾	\$2,668	\$3,385	\$3,359	\$3,522	\$3,940
Non-Residential ⁽³⁾	\$968	\$880	\$729	\$1,197	\$1,256
Miscellaneous Residential ⁽⁴⁾	\$18	\$28	\$25	\$134	\$180
Miscellaneous Non-Residential ⁽⁵⁾	\$18	\$40	\$56	\$87	\$40
Number of Residential Units:					
Single family ⁽⁶⁾	1,852	2,246	2,393	3,148	3,598
Multi-family ⁽⁷⁾	9,607	13,246	11,495	10,984	12,659
Subtotal Residential Units	11,459	15,492	13,888	14,132	16,257
Number of Non-Residential Units ⁽⁸⁾	326	613	97	630	12
Miscellaneous Residential Units ⁽⁹⁾	274	393	672	4,701	4,614
Miscellaneous Non-Residential Units ⁽¹⁰⁾	267	736	1,036	100	493
Total Units	12,326	17,234	15,693	19,563	21,376

⁽¹⁾ In millions of dollars. "Valuation" represents the total valuation of all construction work for which the building permit is issued.

⁽²⁾ Valuation of permits issued for Single-Family Dwellings, Duplexes, Apartment Buildings, Hotel/Motels, and Condominiums.

⁽³⁾ Valuation of permits issued for Special Permits, Airport Buildings, Amusement Buildings, Churches, Private Garages, Public Garages, Gasoline Service Stations, Hospitals, Manufacturing Buildings, Office Buildings, Public Administration Buildings, Public Utilities Buildings, Retail Stores, Restaurants, School Buildings, Signs, Private Swimming Pools, Theater Buildings, Warehouses, Miscellaneous Buildings/Structures, Prefabricated Houses, Solar Heaters, Temporary Structures, Artists-in-Residence, Foundation Only, Grade - Non-Hillside, Certificates of Occupancy - Use of Land, Grading - Hillside.

⁽⁴⁾ Valuation of permits issued for "Additions Creating New Units - Residential" and "Alterations Creating New Units - Residential."

⁽⁵⁾ Valuation of permits issued for "Additions Creating New Units - Commercial" and "Alterations Creating New Units - Commercial."

⁽⁶⁾ Number of dwelling units permitted for Single-Family Dwellings and Duplexes.

⁽⁷⁾ Number of dwelling units permitted for new Apartment Buildings, Hotel/Motels, and Condominiums.

⁽⁸⁾ Number of dwelling units permitted for Airport Buildings, Amusement Buildings, Churches, Private Garages, Public Garages, Gasoline Service Stations, Hospitals, Manufacturing Buildings, Office Buildings, Public Administration Buildings, Public Utilities Buildings, Retail Stores, Restaurants, School Buildings, Signs, Private Swimming Pools, Theater Buildings, Warehouses, Miscellaneous Buildings/Structures Prefabricated Houses, Solar Heaters, Temporary Structures, Artists-in-Residence.

⁽⁹⁾ Number of dwelling units added includes "Addition Creating New Units - Residential" and "Alterations Creating New Units - Residential."

⁽¹⁰⁾ Number of dwelling units added includes "Additions Creating New Units - Commercial" and "Alterations Creating New Units - Commercial."

Source: City of Los Angeles, Department of Building and Safety.

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Commercial Real Estate Markets in Los Angeles

The following table shows the most recent information available regarding vacancy rates for commercial property in the City and the County.

Table 11 CITY OF LOS ANGELES AND COUNTY OF LOS ANGELES COMMERCIAL PROPERTY VACANCY RATES				
Year and Area ⁽¹⁾	Retail	Office	Warehouse	R&D
2014				
City	5.4	16.7	6.4	5.2
County	6.1	15.7	6.9	4.7
2015				
City	4.9	16.4	5.8	4.4
County	6.0	15.4	6.2	3.8
2016				
City	5.0	15.2	5.4	4.1
County	6.3	14.5	5.6	3.2
2017				
City	5.4	15.1	4.6	3.0
County	6.2	14.6	4.7	2.6
2018				
City	5.4	15.0	4.7	3.4
County	6.5	14.5	4.8	3.0
⁽¹⁾ Vacancy rates are annual averages.				
Source: REIS, Beacon Economics.				

Education

The Los Angeles Unified School District (“LAUSD”), a separate government agency and one of the largest employers in the City, administers public instruction for kindergarten through 12th grade (“K–12”), adult, and occupational schools in the City and all or significant portions of a number of smaller neighboring cities and unincorporated areas. LAUSD, which now encompasses approximately 710 square miles (making it significantly larger than the City at 470 square miles), was formed in 1854 as the Common Schools for the City of Los Angeles, and became a unified school district in 1960. LAUSD is governed by a seven-member Board of Education, elected by district to serve alternating four-year terms. There are also a number of charter and private K–12 schools located in the City.

There are many public and private colleges and universities located in the City. Major colleges and universities located within the City include the University of California at Los Angeles, the University of Southern California, California State University at Los Angeles, California State University at Northridge, Occidental College and Loyola Marymount University. There are seven community colleges located within the City operated by the Los Angeles Community College District.

APPENDIX C

DTC BOOK-ENTRY SYSTEM

The information in this Appendix C regarding DTC and its book-entry system has been obtained from DTC's website, for use in securities offering documents, and the Department takes no responsibility for the accuracy or completeness thereof or for the absence of material changes in such information after the date hereof.

The Depository Trust Company ("DTC"), New York, New York, acts as securities depository for the Series A Bonds. The Series A Bonds were issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered bond certificate will be issued for each maturity of the Series A Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has a Standard & Poor's rating of AA+. The DTC Rules applicable to Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of the Series A Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Series A Bonds on DTC's records. The ownership interest of each actual purchaser of each Series A Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Series A Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Series A Bonds, except in the event that use of the book-entry system for the Series A Bonds is discontinued.

To facilitate subsequent transfers, all Series A Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be

requested by an authorized representative of DTC. The deposit of Series A Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not affect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series A Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series A Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Series A Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series A Bonds, such as redemptions, tenders, defaults and proposed amendments to the Series A Bond documents. For example, Beneficial Owners of Series A Bonds may wish to ascertain that the nominee holding the Series A Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

Redemption notices will be sent to DTC. If less than all of the Series A Bonds of a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series A Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the Department as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Series A Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Series A Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Department or the Fiscal Agent on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Fiscal Agent or the Department, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Department or the Fiscal Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Series A Bonds at any time by giving reasonable notice to the Department or the Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, certificates representing the Series A Bonds are required to be printed and delivered.

The Department may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, bond certificates representing the Series A Bonds will be printed and delivered to DTC.

APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION

The following is a brief summary of certain Provisions of the Bond Resolutions not previously discussed in this Official Statement. Such summary is not intended to be definitive, and reference is made to each Bond Resolution in its entirety for the complete terms thereof. Capitalized terms used in this summary which are not otherwise defined in this Official Statement have the meanings ascribed to such terms in the Bond Resolutions, as applicable.

CERTAIN DEFINITIONS

“Accountant’s Certificate” means a certificate signed by an Independent Certified Public Accountant of recognized national standing selected by the Department.

“Accreted Value” means, with respect to any Capital Appreciation Obligation and as of any date, the Initial Amount thereof plus the interest accrued thereon from its delivery date, compounded at the approximate interest rate with respect to such Capital Appreciation Obligation specified in or pursuant to the Issuing Instrument authorizing the issuance of such Capital Appreciation Obligation on each date specified therein. The applicable Accreted Value at any date will be the amount set forth in the Accreted Value Table as of such date, if such date is a compounding date, and if not, will be determined by straight-line interpolation with reference to such Accreted Value Table.

“Accreted Value Table” means, with respect to Capital Appreciation Obligations, the table denominated as such in, and to which reference is made in, the Issuing Instrument authorizing the issuance of such Capital Appreciation Obligations.

“Additional Bonds” means Bonds issued in accordance with the terms and conditions of the Master Resolution for the purpose of providing for the payment of the Costs of Capital Improvements.

“Additional Parity Obligations” means Parity Obligations, including Additional Bonds, issued for the purpose of providing for the payment of the Costs of Capital Improvements and satisfying the conditions set forth in the Master Resolution.

“Adjusted Net Income” means, with respect to a certificate to be delivered in connection with Additional Parity Obligations and for any Calculation Period to which such certificate relates and as calculated by the Department or a Consultant, the Net Income for such Calculation Period plus an amount equal to depreciation, amortization, interest on debt and Unrealized Items for such Calculation Period, in each case determined in accordance with Generally Accepted Accounting Principles, less any portion of such Net Income which has been deposited in the Expense Stabilization Fund, plus at the option of the Department, any or all of the following: (i) an allowance for any estimated increase in such Net Income from any revenue producing additions or improvements to or extensions of the Water System, made but not in service during the applicable Calculation Period or to be made with the proceeds of the Additional Parity Obligations with respect to which such certificate relates, with the proceeds of other Obligations theretofore issued by the Department and available for such purpose or with other available funds of the Department reserved by the Department for such purpose, such allowance to be in an amount equal to the estimated additional average annual Net Income to be derived from such additions, improvements and extensions during the twelve month period after placing such addition, improvement or extension in service, all as shown by a certificate of the Department or a Consultant; (ii) an allowance for any increases in rates and charges which relate to the Water System and which have been approved by the Board and the City Council but which during all or any part of the Calculation Period were not in effect,

such allowance to be in an amount equal to seventy-five percent (75%) of the amount by which the Net Income for the Calculation Period would have increased if such increase in rates and charges had been in effect for that portion of the Calculation Period during which such increase was not in effect; and (iii) the amount withdrawn from the Expense Stabilization Fund during such Calculation Period.

“Applicable Parity Obligations” means, with respect to a certificate to be delivered in connection with Additional Parity Obligations and as of the date of such certificate, all of the Parity Obligations Outstanding on such date plus the Additional Parity Obligations proposed to be issued.

“Assistant Auditor” means an Assistant Auditor of the Department.

“Auditor” means the Auditor of the Department.

“Authorized Denominations” means, with respect to the Series A Bonds, \$5,000 or any integral multiple of thereof.

“Authorized Department Representative” means the President or Vice President of the Board, the General Manager, the Assistant General Manager – Water Services of the Department, the Auditor and each Assistant Auditor and any other officer of the Department duly authorized to act as an Authorized Department Representative for purposes of the Bond Resolution by resolution of the Board or written authorization of the General Manager.

“Balloon Indebtedness” means, with respect to any Series of Obligations twenty-five percent (25%) or more of the principal of which matures on the same date or within a 12-month period (with Sinking Fund Installments on Term Obligations deemed to be payments of matured principal), that portion of such Series of Obligations which matures on such date or within such 12-month period. For purposes of this definition, the principal amount maturing on any date shall be reduced by the amount of such indebtedness which is required, by the documents governing such indebtedness, to be amortized by prepayment or redemption prior to its stated maturity date.

“Beneficial Owner” means, with respect any Book-Entry Bond, the beneficial owner of such Bond as determined in accordance with the applicable rules of the Securities Depository for such Book-Entry Bonds.

“Board” means the Board of Water and Power Commissioners of the City of Los Angeles.

“Bond” means any of the Department of Water and Power of the City of Los Angeles Water System Revenue Bonds authorized pursuant to the Master Resolution and a Supplemental Resolution.

“Bond Register” means the registration books for the ownership of Bonds maintained by the Fiscal Agent pursuant to the Master Resolution.

“Bond Resolution” means the Master Resolution as supplemented by the Twenty-Ninth Supplemental Resolution.

“Bond Service Fund” means the Water System Revenue Bonds Bond Service Fund established pursuant to the Master Resolution.

“Bondowner” or “Owner” means, with respect to a Bond, the registered owner of such Bond in the Bond Register.

“Book-Entry Bonds” means, with respect to the Series A Bonds, the Series A Bonds registered in the name of DTC’s nominee, as the initial Securities Depository, or any successor Securities Depository for the Series A Bonds, as the registered owner thereof.

“Business Day” means, unless otherwise provided with respect to a Series of Bonds in the Supplemental Resolution authorizing the issuance of such Series, any day, other than a Saturday, Sunday or other day on which the New York Stock Exchange or banks are authorized or obligated by law or executive order to close in the State of New York or State of California or any city in which the Principal Office of any Paying Agent or any Credit Provider for such Series of Bonds is located.

“Calculation Period” means, with respect to any certificate to be provided pursuant to the Master Resolution in connection with Additional Parity Obligations, any twelve consecutive month period within the eighteen consecutive months ending immediately prior to the issuance of the Additional Parity Obligations to which such certificate relates.

“Capital Appreciation Obligations” means any Obligations the interest on which is compounded and not scheduled to be paid until the maturity or prior redemption of such Obligations.

“Capital Improvement” means any addition, betterment, replacement, renewal, extension or improvement of or to the Water System, including, without limitation, the acquisition of land or any interests therein, which under Generally Accepted Accounting Principles are chargeable to a capital account and capital costs for the extension, reinforcement, enlargement or other improvement of facilities or property, or the acquisition of interests therein, whether or not included as part of the Water System, determined by the Department to be necessary or convenient in connection with the utilization of the Water System.

“Charter” means The Charter of The City of Los Angeles.

“Chief Financial Officer” means: (i) the Chief Financial Officer of the Department; and (ii) in the event that at the applicable time of performance of an action under the Bond Resolution there is a vacancy in the office of Chief Financial Officer, or the Chief Financial Officer is outside the City, the Chief Accounting Employee of the Department.

“City” means the City of Los Angeles, a chartered city, duly organized and existing under and by virtue of the Constitution and laws of the State of California.

“City Council” means the Council of the City established pursuant to the Charter.

“Code” means the Internal Revenue Code of 1986, as amended from time to time. Each reference to a section of the Code in the Master Resolution and the Twenty-Ninth Supplemental Resolution shall be deemed to include United States Treasury Regulations thereunder applicable to the Bonds issued pursuant to the Twenty-Ninth Supplemental Resolution or the use of proceeds thereof, and also includes all amendments and successor provisions unless the context clearly requires otherwise.

“Commercial Paper Program” means a program of short-term Obligations having the characteristics of commercial paper in that such Parity Obligations have a stated maturity not later than 270 days from their date of issue and that maturing Obligations of such program may be paid with the proceeds of renewal short-term Obligations.

“Consultant” means a consultant, consulting firm, engineer, architect, engineering firm, architectural firm, accountant or accounting firm retained by the Department to perform acts, prepare

certificates or otherwise carry out the duties provided for a Consultant in the Master Resolution or any Supplemental Resolution. Such consultant, consulting firm, engineer, architect, engineering firm or architectural firm shall be nationally recognized within its profession for work of the character required. Such accountants or accounting firm shall be Independent Certified Public Accountants licensed to practice in the State of California.

“Cost” means, with respect to any Capital Improvement, all costs and expenses of planning, designing, acquiring, constructing, installing and financing such Capital Improvement, placing such Capital Improvement in operation, disposal of such Capital Improvement, and obtaining governmental approvals, certificates, permits and licenses with respect thereto heretofore or hereafter paid or incurred by the Department. Payment of Cost shall include the reimbursement to the Department for any of the costs included in this definition of Cost paid by the Department which have not previously been reimbursed to the Department and which are not to be reimbursed from contributions in aid of construction. The term Cost shall include, but shall not be limited to, funds required for: (a) costs of preliminary investigation and development, the performance or acquisition of feasibility and planning studies, and the securing of regulatory approvals, as well as costs for land and land rights, engineering and contractors’ fees, labor, materials, equipment, utility services and supplies, legal fees and financing expenses; (b) working capital and reserves therefor in such amounts as shall be determined by the Department; (c) interest accruing in whole or in part on Parity Obligations prior to and during construction of a Capital Improvement or any portion thereof, and for such additional period as the Department may determine; (d) the deposit or deposits from the proceeds of the Bonds in any funds or accounts which deposit or deposits are required by the Master Resolution or any Supplemental Resolution; (e) the payment of principal, premium, if any, and interest when due (whether at the maturity of principal or at the due date of interest or upon redemption or otherwise) of any note or other evidence of indebtedness the proceeds of which were applied to any of the costs of a Capital Improvement described in the Master Resolution; (f) training and testing costs which are properly allocable to the acquisition, placing in operation, or construction of a Capital Improvement; (g) all costs of insurance applicable to the period of construction and placing a Capital Improvement in operation; (h) all costs relating to injury and damage claims arising out of the acquisition or construction of a Capital Improvement less proceeds of insurance; (i) legally required or permitted federal, state and local taxes and payments in lieu of taxes applicable to the period of construction and placing a Capital Improvement in operation; (j) amounts due the United States of America as rebate of investment earnings with respect to the proceeds of Parity Obligations or as penalties in lieu thereof; (k) amounts payable with respect to capital costs for the expansion, reinforcement, enlargement or other improvement of facilities determined by Department to be necessary in connection with the utilization of a Capital Improvement and the costs associated with the removal from service or reductions in service of any facilities as a result of the expansion, reinforcement, enlargement or other improvement of such facilities or the construction of a Capital Improvement; (l) Costs of Issuance of any Parity Obligations; (m) fees and expenses pursuant to any lending or credit facility or agreement applicable to the period for construction and placing a Capital Improvement in operation; and (n) all other costs incurred by the Department and properly allocable to the acquisition, construction, or placing in operation of a Capital Improvement or any portion thereof.

“Costs of Issuance” means all items of expense directly or indirectly payable by or reimbursable to the Department and related to the original authorization, execution, sale and delivery of Parity Obligations, including but not limited to advertising and printing costs, costs of preparation and reproduction of documents, including disclosure documents and documents relating to the sale of such Parity Obligations, initial fees and charges (including counsel fees) of any fiscal agent, any paying agent and any Credit Provider, legal fees and charges, financial advisor fees and expenses, fees and expenses of other consultants and professionals, rating agency fees, fees and charges for preparation, execution, transportation and safekeeping of Parity Obligations and any other cost, charge or fee in connection with the authorization, issuance, sale or original delivery of Parity Obligations.

“Credit Provider” means any municipal bond insurance company, bank or other financial institution or organization which is performing in all material respects its obligations under any Credit Support Instrument for some or all of the Parity Obligations.

“Credit Provider Bonds” means any Bonds purchased with funds provided under a Credit Support Instrument for so long as such Bonds are held by or for the account of, or are pledged to, the applicable Credit Provider in accordance with the Twenty-Ninth Supplemental Resolution.

“Credit Provider Reimbursement Obligations” means obligations of the Department to pay from the Water Revenue Fund amounts under a Credit Support Agreement, including without limitation amounts advanced by a Credit Provider pursuant to a Credit Support Instrument as credit support or liquidity for Parity Obligations and the interest with respect thereto.

“Credit Support Agreement” means, with respect to any Credit Support Instrument, the agreement or agreements (which may be the Credit Support Instrument itself) between the Department and the applicable Credit Provider, as originally executed or as it may from time to time be replaced, supplemented or amended in accordance with the provisions thereof, providing for the reimbursement to the Credit Provider for payments under such Credit Support Instrument, and the interest thereon, and includes any subsequent agreement pursuant to which a substitute Credit Support Instrument is provided, together with any related pledge agreement, security agreement or other security document.

“Credit Support Instrument” means a policy of insurance, a letter of credit, a stand-by purchase agreement, revolving credit agreement or other credit arrangement pursuant to which a Credit Provider provides credit or liquidity support with respect to the payment of interest, principal or the Purchase Price of any Parity Obligations.

“Crossover Date” means, with respect to a Series of Refunding Parity Obligations constituting Crossover Refunding Obligations, the date on which the proceeds of the sale of such Refunding Parity Obligations are to be applied to the payment of the principal of and premium, if any, on the Parity Obligations to be refunded with the proceeds of such Refunding Parity Obligations in accordance with the applicable Crossover Refunding Instructions.

“Crossover Refunding Escrow” means, with respect to any Series of Refunding Parity Obligations constituting Crossover Refunding Obligations, a trust or escrow fund or account established with an Escrow Agent into which proceeds of the sale of such Series of Refunding Parity Obligations and, if necessary, other available funds have been deposited in an amount sufficient to pay when due, or to purchase bonds, notes or other evidences of indebtedness the scheduled payments of principal of and interest on which will provide moneys at the times and in amounts sufficient to pay when due, the applicable Crossover Refunding Requirements in accordance with the applicable Crossover Refunding Instructions.

“Crossover Refunding Instructions” means, with respect to a Series of Refunding Parity Obligations which constitute Crossover Refunding Obligations, a certificate order, escrow deposit agreement, or other direction from an Authorized Department Representative to the Escrow Agent for the applicable Crossover Refunding Escrow to apply amounts in the applicable Crossover Refunding Escrow to the payments of principal and interest scheduled to be made on the Crossover Refunding Obligations to and including the applicable Crossover Date and on such Crossover Date to apply moneys in the applicable Crossover Refunding Escrow to the payment or redemption of the Parity Obligations to be refunded or, in the event that the conditions to such payment or redemption contained in the Issuing Instrument authorizing the issuance of such Crossover Refunding Obligations are not satisfied, to the

payment or redemption of the Crossover Refunding Obligations on the terms and conditions set forth in such Issuing Instrument.

“Crossover Refunding Obligations” means Refunding Parity Obligations as to which a Crossover Refunding Escrow has been established and which are payable, prior to the application of moneys in the applicable Crossover Refunding Escrow to the payment or redemption of the Parity Obligations to be refunded, only from amounts in such Crossover Refunding Escrow.

“Crossover Refunding Requirements” means, with respect to a Series of Parity Refunding Obligations constituting Crossover Refunding Obligations and the Parity Obligations to be refunded with the proceeds of the sale of such Refunding Parity Obligations, moneys sufficient to pay when due: (i) the scheduled principal of and interest on the Series of Parity Refunding Obligations coming due on and before the applicable Crossover Date (other than as a result of the failure to apply moneys in the applicable Crossover Refunding Escrow to the refunding of the Parity Obligations to be refunded with the proceeds of the sale of such Refunding Parity Obligations on the Crossover Date); (ii) the principal of, premium, if any, and interest on such Refunding Parity Obligations which are payable in accordance with the applicable Crossover Refunding Instructions in the event the amounts in the applicable Crossover Refunding Escrow are not applied to the payment or redemption of the Parity Obligations to be refunded with the proceeds of the sale of such Refunding Parity Obligations; and (iii) the principal of and premium, if any, on the Parity Obligations to be refunded with the proceeds of the sale of the Refunding Parity Obligations coming due in accordance with the applicable Crossover Refunding Instructions.

“Debt Service” means, for any Fiscal Year, the sum of (a) the interest payable during such Fiscal Year on all Outstanding Parity Obligations, assuming that all Outstanding Serial Parity Obligations are retired as scheduled and that all Outstanding Term Parity Obligations are redeemed or paid from Sinking Fund Installment as scheduled, (b) that portion of the principal amount of all Outstanding Serial Parity Obligations maturing on each principal payment date which falls in such Fiscal Year, including the Final Compounded Amount of any Capital Appreciation Obligations which are Series Parity Obligations, (c) that portion of the principal amount of all Outstanding Term Parity Obligations required to be redeemed or paid from Sinking Fund Installments becoming due during such Fiscal Year (together with the redemption premiums, if any, thereon), including the Accreted Value of any Capital Appreciation Obligations which are Term Parity Obligations.

“Defeasance Securities” means any of the following securities, if and to the extent the same are at the time any legal investments for funds of the Department: (i) any bonds or other obligations which as to principal and interest constitute direct obligations of, or obligations unconditionally guaranteed by, the United States of America, including obligations of any agency or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America to the extent unconditionally guaranteed by the United States of America; and (ii) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local government unit of any such state (a) which are rated “AAA” by Standard and Poor’s, “AAA” by Fitch or “Aaa” by Moody’s, (b) which are not callable prior to maturity or as to which irrevocable instructions have been given to the trustee, fiscal agent or other fiduciary for such bonds or other obligations by the obligor to give due notice of redemption and to call such bonds or other obligations for redemption on the date or dates specified in such instructions, (c) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in clause (i) hereof which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (b) of this clause (ii), as appropriate, and (d) as to which the principal of and interest on the bonds and obligations of the character described in clause (i) hereof which have been deposited in such

fund, along with any cash on deposit in such fund, have been verified by an Accountant's Certificate as being sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (ii) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (b) of this clause (ii), as appropriate.

"Delivery Certificate" means, with respect to a Series of Bonds or any Subseries thereof, a certificate of an Authorized Department Representative establishing certain terms and conditions for such Series or Subseries and specifying the application of the proceeds of such Series or Subseries, all as authorized by the Supplemental Resolution authorizing such Series of Bonds.

"Electronic" means, with respect to notice, notice through the internet or a time-sharing terminal.

"Escrow Agent" means the Fiscal Agent or a bank or trust company organized under the laws of any state of the United States, or a national association, appointed by the Department to hold in trust moneys set aside for either: (i) the payment or redemption of, or interest installments on, a Bond or Bonds, or any portion thereof, deemed paid and defeased pursuant to Article IX of the Master Resolution; or (ii) the payment of the principal, premium, if any, or interest on Crossover Refunding Bonds or the Parity Obligations to be refunded with the proceeds of the sale of such Crossover Refunding Bonds.

"Expense Stabilization Fund" means the Water System Expense Stabilization Fund established pursuant to the Master Resolution.

"Favorable Opinion of Bond Counsel" means, with respect to any action requiring such an opinion, an Opinion of Bond Counsel to the effect that such action will not, in and of itself, adversely affect the Tax-Exempt status of interest on the Bonds or such portion thereof as shall be specified in the provisions of the Master Resolution or the Supplemental Resolution requiring such an opinion.

"Fiduciary" means, with respect to each Series of Bonds, the Fiscal Agent, and each Paying Agent and Escrow Agent for such Series of Bonds.

"Final Compounded Amount" means the Accreted Value of any Capital Appreciation Obligation on its maturity date.

"Fiscal Agent" means, the agent appointed by the Department pursuant to the Master Resolution to perform the duties and obligations ascribed to the Fiscal Agent with respect to each Series of Bonds pursuant to the applicable Supplemental Resolution.

"Fiscal Year" means the period beginning on July 1 of each year and ending on the next succeeding June 30, or any other twelve-month period selected and designated as the official Fiscal Year of the Department.

"Fitch" means Fitch Ratings and any successor entity rating Parity Obligations at the request of the Department.

"General Manager" means the General Manager of the Department.

"Generally Accepted Accounting Principles" means generally accepted accounting principles set forth in the opinions and pronouncements of the Accounting Principles Board of the American Institute of Certified Public Accountants applicable to a government-owned utility applying all statements and interpretations issued by the Governmental Accounting Standards Board and statements and pronouncements of the Financial Accounting Standards Board which are not in conflict with the

statements and interpretations issued by the Governmental Accounting Standards Board or in such other statements by such other entity as may be approved by a significant segment of the accounting profession, that are applicable to the circumstances as of the date of determination.

“Independent Certified Public Accountant” means any firm of certified public accountants appointed by the Department, and each of whom is independent pursuant to the Statement on Auditing Standards No. 1 of the American Institute of Certified Public Accountants.

“Initial Amount” means the Accreted Value of a Capital Appreciation Obligation on its date of issuance and delivery to the original purchaser thereof.

“Interest Account” means the account by that name in the Bond Service Fund established pursuant to the Master Resolution.

“Interest Payment Date” means, with respect to the Series A Bonds, January 1 and July 1 of each year, commencing January 1, 2021.

“Issuing Instrument” means any resolution, indenture, trust agreement or other instrument or agreement under which Obligations are issued.

“Maximum Annual Adjusted Debt Service” means, with respect to a certificate to be delivered in connection with Additional Parity Obligations pursuant to the Master Resolution, as of any date and with respect to the Applicable Parity Obligations, the maximum amount of Debt Service becoming due on the Applicable Parity Obligations in the then current or any future Fiscal Year, as adjusted as provided in this definition and calculated by the Department or by a Consultant. For purposes of calculating Maximum Annual Adjusted Debt Service, the following adjustments and assumptions shall be made with respect to Debt Service on the Applicable Parity Obligations coming due in each Fiscal Year:

(a) in determining the amount of Debt Service constituting principal due in each Fiscal Year, principal payments with respect to Applicable Parity Obligations which are or upon issuance will be, part of a Commercial Paper Program, but which would not constitute Balloon Indebtedness, shall be treated as if such Applicable Parity Obligations were to be amortized with substantially level annual Debt Service payments over a term of 40 years commencing on the date the calculation of Maximum Annual Adjusted Debt Service is made:

(b) if all or any portion or portions of the Applicable Parity Obligations constitute, or upon issuance would constitute, Balloon Indebtedness, then, for purposes of determining Maximum Annual Adjusted Debt Service, each maturity which constitutes, or upon issuance would constitute, Balloon Indebtedness shall be treated as if it were to be amortized with substantially level annual Debt Service payments over a term of 40 years commencing on the date which is the first anniversary of the initial issuance of such Applicable Parity Obligations;

(c) if any Outstanding Parity Obligations constitute Tax-Exempt Variable Rate Indebtedness (except to the extent paragraph (g) applies), the interest rate on such Parity Obligations for any period as to which such interest rate has not been established shall be assumed to be 110% of the daily average interest rate on such Parity Obligations during the 12 months ending with the month preceding the date of calculation, or such shorter period that such Parity Obligations shall have been Outstanding;

(d) if any Outstanding Parity Obligations constitute Variable Rate Indebtedness which is not Tax-Exempt (except to the extent paragraph (g) applies), the interest rate on such

Parity Obligations for any period as to which such interest rate has not been established shall be assumed to be 110% of the average One Month USD LIBOR Rate during the calendar quarter preceding the calendar quarter in which the calculation of Maximum Annual Adjusted Debt Service is made or if the One Month USD LIBOR Rate is not available for such period, another similar rate or index selected by the Department.

(e) if the Additional Parity Obligations proposed to be issued will be Tax-Exempt Variable Rate Indebtedness (except to the extent subsection (h) applies), then the interest rate on such Additional Parity Obligations shall be assumed to be 110% of the average TBMA Index during the calendar quarter preceding the calendar quarter in which the calculation of Maximum Annual Adjusted Debt Service is made, or if that index is no longer published, seventy-five percent (75%) of the One Month USD LIBOR Rate, or if the One Month USD LIBOR Rate is not available, another similar rate or index selected by the Department;

(f) if the Additional Parity Obligations proposed to be issued will be Variable Rate Indebtedness which is not Tax-Exempt (except to the extent subsection (h) applies) then the interest rate on such Additional Parity Obligations shall be assumed to be 110% of the average One Month USD LIBOR Rate during the calendar quarter preceding the calendar quarter in which the calculation is made, or if the One Month USD LIBOR Rate is not available for such period, another similar rate or index selected by the Department;

(g) if a Qualified Swap Agreement has been entered into in connection with any Outstanding Parity Obligations, the interest rate on such Outstanding Parity Obligations for each Fiscal Year or portion thereof during which payments are to be exchanged by the parties under such Qualified Swap Agreement shall be determined for purposes of calculating Maximum Annual Adjusted Debt Service by adding: (1) the amount of Debt Service paid or to be paid by the Department as interest on the Outstanding Parity Obligations during such Fiscal Year or portion thereof (determined as provided in paragraph (c) or (d), as applicable, if such Outstanding Parity Obligations constitute Variable Rate Indebtedness) and (2) the net amount (which may be a negative amount) paid or to be paid by the Department under the Qualified Swap Agreement (after giving effect to payments made and received, and to be made and received, by the Department under the Qualified Swap Agreement) during such Fiscal Year or portion thereof, and for this purpose any variable rate of interest agreed to be paid under the Qualified Swap Agreement shall be deemed to be the rate at which the related Outstanding Parity Obligations constituting Variable Rate Indebtedness is assumed to bear interest;

(h) if a Qualified Swap Agreement has been entered into by the Department with respect to any Additional Parity Obligations proposed to be issued, the interest on such proposed Additional Parity Obligations for each Fiscal Year or portion thereof during which payments are to be exchanged under the Qualified Swap Agreement shall be determined for purposes of calculating Maximum Annual Adjusted Debt service by adding: (1) the amount of Debt Service to be paid by the Department as interest on such Additional Parity Obligations during such Fiscal Year or portion thereof (determined as provided in paragraph (e) or (f), as applicable, if such Additional Parity Obligations are to constitute Variable Rate Indebtedness) and (2) the net amount (which may be a negative amount) to be paid by the Department under the Qualified Swap Agreement (after giving effect to payments to be made and received by the Department under the Qualified Swap Agreement) during such Fiscal Year or portion thereof, and for this purpose any variable rate of interest agreed to be paid under the Qualified Swap Agreement shall be deemed to be the rate at which the related Additional Parity Obligations which are to constitute Variable Rate Indebtedness shall be assumed to bear interest; and

(i) if any of the Applicable Parity Obligations are, or upon issuance will be, Paired Obligations, the interest thereon shall be the resulting linked rate or effective fixed rate to be paid with respect to such Paired Obligations.

“Moody’s” means Moody’s Investors Service, Inc. and any successor entity rating Parity Obligations at the request of the Department.

“Net Income” means, for any period of time, the net income of the Water System for such period determined in accordance with Generally Accepted Accounting Principles; provided, however, that in no event shall any transfer from the Water Revenue Fund to the reserve fund of the City pursuant to Section 344 of the Charter be considered an expense of the Water System in determining such net income.

“Nominee” means the nominee of the Securities Depository for the Book-Entry Bonds in whose name such Bonds are to be registered. The initial Nominee shall be Cede & Co., as the nominee of DTC.

“Obligations” means (a) obligations with respect to borrowed money and includes bonds, notes or other evidences of indebtedness, installment purchase payments under any contract, and lease payments under any financing or capital lease (determined to be such in accordance with Generally Accepted Accounting Principles), which are payable from the Water Revenue Fund, (b) obligations to replenish any debt service reserve fund with respect to obligations of the Department described in (a) above; (c) obligations secured by or payable from any of obligations of the Department described in (a) above; and (d) obligations payable from the Water Revenue Fund and entered into in connection with, relating to, or otherwise serving as a hedge with respect to, an obligation described in (a), (b) or (c) above under (1) any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, (2) any contract to exchange cash flows or a series of payments, or (3) any contract to hedge payment, currency, rate spread or similar exposure, including but not limited to interest rate swap agreements and interest rate cap agreements; and (e) Credit Provider Reimbursement Obligations.

“One Month USD LIBOR Rate” means the British Banker’s Association average of interbank offered rates in the London market for United States dollar deposits for a one month period as reported in the Wall Street Journal or, if not reported in such newspaper, as reported in such other source as may be selected by the Department.

“Opinion of Bond Counsel” means a written opinion signed by an attorney or firm of attorneys of recognized national standing in the field of law relating to municipal securities and to exclusion of interest thereon from income for federal income tax purposes selected by the Department.

“Outstanding” when used as of any particular time with respect to Obligations, means, except as otherwise provided in the Master Resolution, all Obligations theretofore or thereupon executed, authenticated and delivered by the Department or any trustee or other fiduciary, except (a) Obligations theretofore cancelled or surrendered for cancellation; (b) Obligations paid or deemed to be paid within the meaning of any defeasance provisions thereof; (c) Obligations in lieu of or in substitution for which other Obligations have been executed and delivered; and (d) prior to the applicable Crossover Date, Refunding Parity Obligations which are Crossover Refunding Obligations.

“Paired Obligations” shall mean any Series (or portion thereof) of Parity Obligations designated as Paired Obligations in the Issuing Instrument authorizing the issuance thereof, which are simultaneously issued (a) the principal of which is of equal amount maturing and to be redeemed (or cancelled after acquisition thereof) on the same dates and in the same amounts, and (b) the interest rates which, taken together, result in an irrevocably fixed interest rate obligation of the Department for the terms of such Paired Obligations.

“Parity Obligations” means (a) Bonds, (b) the Prior Bonds, and (c) Obligations which are payable from the Water Revenue Fund on a parity with the payment of the Bonds and which satisfy the applicable conditions of the Master Resolution, including payments due under Qualified Swap Agreements.

“Participants” means, with respect to a Securities Depository for Book-Entry Bonds, those participants listed in such Securities Depository’s book-entry system as having an interest in such Bonds.

“Paying Agent” means, with respect to the Series A Bonds, the City Treasurer of the City, or its agent thereof, and its successor or successors appointed in the manner provided in the Twenty-Ninth Supplemental Resolution for the Series A Bonds.

“Preceding Fiscal Year” means the latest prior Fiscal Year with respect to which books of the Department showing Net Income of the Water System have been examined and reported upon by Independent Certified Public Accountants engaged by the Department.

“Principal Account” means the account by that name in the Bond Service Fund established pursuant to the Master Resolution.

“Principal Office” means, with respect to: (i) the Fiscal Agent, the principal office of such Fiscal Agent in Los Angeles, California, except that if a Paying Agent has been appointed as agent for the Fiscal Agent to perform certain of the Fiscal Agent’s duties with respect to a Series of Bonds pursuant to the Master Resolution, references to the Principal Office of the Fiscal Agent for purposes of such duties shall refer to the Principal Office of such Paying Agent; (ii) a Paying Agent or a Credit Provider, the office designated as such in writing by such party to the Fiscal Agent.

“Prior Bond Resolutions” means the resolutions of the Board identified in Exhibit A to the Master Resolution.

“Prior Bonds” means the Water Works Revenue Bonds and Water Works Revenue Refunding Bonds of the Department issued pursuant to the Prior Bond Resolutions and identified in Exhibit A to the Master Resolution.

“Procedural Ordinance” means Ordinance No. 172,353 of the City, which appears as Article 6.5 of the Administrative Code of the City, as the same may be amended and supplemented, and any other ordinance which shall constitute the “Procedural Ordinance” for purposes of Section 609 of the Charter.

“Qualified Swap Agreement” means a contract or agreement, payable from the Water Revenue Fund on a parity with the payment of Parity Obligations and satisfying the conditions of the Master Resolution, intended to place Parity Obligations or the applicable investments on the interest rate, currency, cash flow or other basis desired by the Department, including, without limitation, any interest rate swap agreement, currency swap agreement, forward payment conversion agreement or futures contract, any contract providing for payments based on levels of, or changes in, interest rates, currency exchange rates, stock or other indices, any contract to exchange cash flows or a series of payments, or any contract, including, without limitation, an interest rate floor or cap, or an option, put or call, to hedge payment, currency, rate, spread or similar exposure, between the Department and a counterparty.

“Rating Agency” means each of Fitch, Moody’s or Standard & Poor’s to the extent it is then providing or maintaining a rating on Parity Obligations at the request of the Department, or in the event that Fitch, Moody’s or Standard & Poor’s no longer maintains a rating on Parity Obligations, any other nationally recognized rating agency then providing or maintaining a rating on the Bonds at the request of the Department.

“Rating Category” means (1) with respect to any long-term rating category, all ratings designated by a particular letter or combination of letters, without regard to any numerical modifier, plus or minus sign or other modifier and (2) with respect to any short-term or commercial paper rating category, all ratings designated by a particular letter or combination of letters and taking into account any numerical modifier, but not any plus or minus sign or other modifier.

“Rating Confirmation” means written evidence from each Rating Agency then rating Outstanding Parity Obligations at the request of the Department to the effect that, following the event which requires the Rating Confirmation, the then current rating for each Outstanding Parity Obligation will not be lowered or withdrawn solely as a result of the occurrence of such event.

“Record Date” means, with respect to an Interest Payment Date for the Current Interest Series A Bonds, the fifteenth day of the month preceding the month in which such Interest Payment Date occurs.

“Redemption Fund” means the Water System Revenue Bonds Redemption Fund established pursuant to the Master Resolution.

“Refunding Bonds” means Bonds issued in accordance with the terms and conditions of the Master Resolution for the purposes, and satisfying the conditions of the Master Resolution.

“Refunding Parity Obligations” means Parity Obligations, including Refunding Bonds, issued for the purposes, and satisfying the conditions set forth in the Master Resolution.

“Representation Letter” the letter or letters of representation from the Department to, or other instrument or agreement with, a Securities Depository for Book-Entry Bonds, in which the Department, among other things, makes certain representations to the Securities Depository with respect to the Book-Entry Bonds, the payment thereof and delivery of notices with respect thereto.

“Reserve Fund” means the Water System Revenue Bonds Reserve Fund established pursuant to the Master Resolution.

“Rule 15c2-12” means Rule 15c2-12 of the Securities and Exchange Commission adopted pursuant to the Securities Exchange Act of 1934, as amended, as the same may be amended and supplemented from time to time.

“Securities Depository” means a trust company or other entity which provides a book-entry system for the registration of ownership interests of Participants in securities and which is acting as security depository for Book-Entry Bonds.

“Serial Obligations” means Obligations for which no Sinking Fund Installments are established.

“Serial Parity Obligations” means Serial Obligations which are Parity Obligations.

“Series” means Obligations issued at the same time or sharing some other common term or characteristic and designated in the Issuing Instrument pursuant to which such Obligations were issued as a separate issue or series of Obligations.

“Sinking Fund Account” means the account by that name in the Bond Service Fund established pursuant to the Master Resolution.

“Sinking Fund Installment” means, with respect to any Term Parity Obligations, each amount so designated for such Term Parity Obligations in the Issuing Instrument authorizing the issuance of such Parity Obligations requiring payments by the Department from the Water Revenue Fund to be applied to the retirement of such Parity Obligations on and prior to the stated maturity date thereof.

“Standard & Poor’s” means Standard & Poor’s Rating Services and any successor entity rating Parity Obligations at the request of the Department.

“State” means the State of California.

“Subordinated Obligation” means any Obligation which is expressly made subordinate and junior in right of payment from the Water Revenue Fund to the payment of Parity Obligations and which complies with the provisions of the Master Resolution.

“Subseries” means, with respect to any Series of Bonds, a portion of the Bonds of such Series identified as a Subseries in the Supplemental Resolution authorizing such Series or the Delivery Certificate relating to such Series or Subseries, which Bonds may bear interest at a different rate or based on a different interest rate determination method or otherwise have terms and conditions which vary from other Bonds of such Series, all to the extent provided in or authorized by the Supplemental Indenture authorizing such Series of Bonds.

“Supplemental Resolution” means any resolution supplemental to or amendatory of the Master Resolution as theretofore in effect, adopted by the Board in accordance with the Master Resolution.

“Surplus” means the equity in the Water System, consisting of the retained income invested in the business and contributions in aid of construction, determined in accordance with Generally Accepted Accounting Principles.

“Tax Certificate” means a certificate relating to the requirements of the Code signed on behalf of the Department and delivered in connection with the issuance of Bonds.

“Tax-Exempt” means, with respect to interest on any obligations of a state or local government, including the Bonds, that such interest is excluded from the gross income of the holders thereof (other than any holder who is a “substantial user” of facilities financed with such obligations or a “related person” within the meaning of Section 147(a) of the Code) for federal income tax purposes, whether or not such interest is includable as an item of tax preference or otherwise includable directly or indirectly for purposes of calculating other tax liabilities, including any alternative minimum tax or environmental tax under the Code.

“Tax-Exempt Securities” means bonds, notes or other securities the interest on which is Tax-Exempt.

“TBMA Index” means The Bond Market Association Municipal Index as of the most recent date for which such index was published or such other weekly, high-grade index comprised of seven-day, Tax-Exempt variable rate demand notes produced by Municipal Market Data, Inc., or its successor, or as otherwise designated by The Bond Market Association; provided, however, that, if such index is no longer produced by Municipal Market Data, Inc. or its successors, then “TBMA Index” shall mean such other reasonably comparable index selected by the Department.

“Tender Indebtedness” means any Parity Obligations or portions of Parity Obligations, a feature of which is an option or obligation, on the part of the owners thereof under the terms of such Parity

Obligations, to tender all or a portion of such Parity Obligations to the Department, a fiscal agent, a paying agent, a tender agent or other agent for purchase and requiring that such Parity Obligations or portions thereof be purchased at the applicable Purchase Price if properly presented.

“Term Obligations” means Obligations which are payable on or before their specified maturity dates from Sinking Fund Installments established for that purpose and calculated to retire such Obligations on or before their specified maturity dates.

“Term Parity Obligations” means Term Obligations which are Parity Obligations.

“Treasurer” means the Treasurer of the City, who is also the General Manager of the City’s Office of Finance.

“Twenty-Ninth Supplemental Resolution” means Resolution No. 4972 of the Board, as the provisions thereof may be amended or supplemented from time to time in accordance with the terms thereof.

“Unrealized Items” mean, with respect to the calculation of Adjusted Net Income for any Calculation Period, any revenues or expenses recognized in accordance with Generally Accepted Accounting Principles which are due to unrealized gains or losses caused by marking assets or liabilities of the Water System to market.

“Variable Rate Indebtedness” means any portion of indebtedness evidenced by Parity Obligations the interest rate on which is not established at the time of incurrence of such indebtedness and has not, at some subsequent date, been established at a rate which is not subject to fluctuation or subsequent adjustment, excluding Paired Obligations.

“Water Revenue Fund” means the fund by that name established by the Charter.

“Water System” means, whether situated inside or outside of the City or the State, all of the water and water rights of the Los Angeles River, all other water or water rights of every nature and kind owned or controlled by the City, and all of the lands, rights-of-way, sites, facilities and property used for the capture, transportation, distribution and delivery of water for the benefit of the City, its inhabitants and its customers.

MASTER RESOLUTION

Authorization of Bonds

The Master Resolution provides certain terms and conditions upon which Bonds of the Department to be designated as “Water System Revenue Bonds” may be issued from time to time as authorized by Supplemental Resolutions. The aggregate principal amount of the Bonds which may be executed, authenticated and delivered under the Master Resolution as supplemented by Supplemental Resolutions is not limited except as may be provided therein or as may be limited by law.

Bonds Payable From Specified Sources

The Bonds shall constitute and evidence special obligations of the Department payable as to principal, premium, if any, and interest only from the Water Revenue Fund and, with respect to any particular Series or Subseries of Bonds, from such other sources as shall be specified in the Supplemental Resolution authorizing the issuance of such Series or Subseries, and the Bonds shall not be payable out of

any other fund or moneys of the Department or the City. The Purchase Price for the Bonds of any Series or Subseries shall be payable from such sources as are specified in the Supplemental Resolution authorizing the issuance of such Series or Subseries. The provisions of the Master Resolution shall not preclude the payment or redemption of Bonds, at the election of the Department, from any other legally available funds. As required by Section 609 of the Charter, the Bonds of each Series shall not constitute or evidence an indebtedness of the City, or a lien or charge on any property or the general revenues of the City but shall constitute and evidence special obligations of the Department payable only from the sources specified in the Master Resolution and the Supplemental Resolution authorizing the issuance of such Series of Bonds. Neither the faith and credit nor the taxing power of the City is or shall be pledged to the payment of the Bonds.

Bond Resolution to Constitute Contract

In consideration of the purchase and acceptance of any and all of the Bonds of each Series by those who shall own the same from time to time, the provisions of the Bonds of such Series, the Master Resolution and the Twenty-Ninth Supplemental Resolution shall be deemed to be and shall constitute a contract between the Department and the Owners of the Bonds of such Series and such provisions shall be enforceable by mandamus or any other appropriate suit, action or proceeding at law or in equity in any court of competent jurisdiction.

No Recourse on Bonds

Neither the members of the Board nor the officers or employees of the Department shall be individually liable on the Bonds or in respect of any undertakings by the Department under the Master Resolution, any Supplemental Resolution or any Bond.

Fiscal Agent

The Treasurer is appointed as the Fiscal Agent for the Bonds of each Series for the purposes of payment of principal of, premium, if any, and interest on such Bonds and for the purpose of administering all funds required to be maintained by the Fiscal Agent for the Bonds of each Series and for all other purposes the Auditor of the Department shall serve as Fiscal Agent.

In connection with the issuance of a Series of Bonds, the Supplemental Resolution authorizing the issuance of such Series may provide for the appointment of a Paying Agent to act as the agent of the Fiscal Agent for the purpose of authentication and transfer of such Series of Bonds, including maintaining that portion of the Bond Register relating to such Series of Bonds, receiving, holding and disbursing funds for the payment of the principal and Purchase Price of, premium, if any, and interest on the Bonds of such Series and performing such other functions with respect to such Series of Bonds as may be provided in the Supplemental Resolution authorizing the issuance of such Series.

General Provisions for Issuance of Bonds

All (but not less than all) the Bonds of each Series shall be executed by the Department for issuance under the Twenty-Ninth Supplemental Resolution and delivered to the Fiscal Agent and thereupon shall be authenticated by the Fiscal Agent and by it delivered to the Department or upon its order, but only upon the receipt by the Fiscal Agent of the following items (upon which the Fiscal Agent may conclusively rely in determining whether the conditions precedent for the issuance and authentication of such Series of Bonds have been satisfied):

(1) A copy of the Master Resolution, as amended to the date of the initial delivery of such Series of Bonds, and a copy of the Supplemental Resolution authorizing the issuance of such Series of Bonds, each certified by an Authorized Department Representative to be in full force and effect, which Supplemental Resolution shall specify, or provide for the specification in a Delivery Certificate of: (i) the sources of payment for the Bonds of such Series other than the Water Revenue Fund, if any; (ii) the Series designation of such Bonds; (iii) whether the Bonds of such Series are to be divided into Subseries and the manner of designating such Subseries; (iv) the authorized principal amount of the Bonds of such Series and each Subseries thereof; (v) the purposes for which such Series of Bonds are being issued, which shall be one of the purposes specified in Section 2.05 or 2.06 of the Master Resolution; (vi) the date or manner of determining the date of the Bonds of such Series and each Subseries thereof; (vii) the maturity date or dates of the Bonds of such Series and each Subseries thereof and the principal amount of the Bonds of such Series or Subseries maturing on each such maturity date; (viii) which, if any, of the Bonds of such Series will constitute Serial Obligations and which, if any, will constitute Term Obligations; (ix) the interest rate or rates on the Bonds of such Series and each Subseries thereof or the manner of determining such interest rate or rates; (x) the Interest Payment Dates for the Bonds of such Series and each Subseries thereof or the manner of establishing such Interest Payment Dates; (xi) the Authorized Denominations of, and the manner of numbering and lettering, the Bonds of such Series and each Subseries thereof; (xii) the redemption price or prices, if any, and, subject to the applicable provisions of the Master Resolution, the redemption terms for the Bonds of such Series and each Subseries thereof; (xiii) the Sinking Fund Installments, if any, for the Bonds of such Series and each Subseries thereof which constitute Term Obligations, provided that each Sinking Fund Installment, if any, shall fall upon an Interest Payment Date for the Bonds of such Series or Subseries; (xiv) if any of the Bonds of such Series or any Subseries thereof constitute Tender Indebtedness, the terms and conditions, including Purchase Price, for the exercise by the Owners or Beneficial Owners of such Bonds of the purchase and extension options granted with respect to such Bonds and the terms and conditions, including Purchase Price, upon which the Bonds of such Series or Subseries will be subject to mandatory tender for purchase; (xv) if the Bonds of such Series are not to be Book-Entry Bonds, a statement to such effect; (xvi) the application of the proceeds of the sale of such Series of Bonds including the amount, if any, to be deposited in the funds and accounts under the Twenty-Ninth Supplemental Resolution; (xvii) the forms of the Bonds of such Series and each Subseries thereof and of the certificate of authentication thereon; and (xviii) the appropriate funds and accounts, if any, relating to such Series of Bonds established under such Supplemental Resolution;

(2) The Delivery Certificate, if any, relating to such Series of Bonds or each Subseries thereof, executed on behalf of the Department by an Authorized Department Representative;

(3) An Opinion of Bond Counsel, dated the date of the initial delivery of such Series of Bonds, to the effect that the Master Resolution, as amended to such date, and the Supplemental Resolution authorizing the issuance of such Series of Bonds, as amended to such date, have been duly adopted by the Board and are in full force and effect;

(4) With respect to any Additional Bonds, the Fiscal Agent shall have received the certificate with respect to the satisfaction of the conditions for the issuance of Additional Parity Obligations contained in the Master Resolution;

(5) With respect to any Refunding Bonds which are not Crossover Refunding Obligations, the Fiscal Agent shall have received a copy of the Opinion of Bond Counsel with respect to the payment of the Parity Obligations to be refunded required by the Master Resolution

or with respect to Refunding Bonds constituting Crossover Refunding Obligations, the Accountant's Certificate and Crossover Escrow Instructions required by the Master Resolution, as applicable; and

(6) Such further documents, moneys and securities as are required by the applicable provisions of Master Resolution or of the Supplemental Resolution authorizing the issuance of such Series of Bonds.

After the original issuance of Bonds of any Series, no Bonds of such Series shall be issued except in lieu of or in substitution for other Bonds of such Series pursuant to the Twenty-Ninth Supplemental Resolution.

Additional Bonds

One or more Series of Additional Bonds may be issued, authenticated and delivered upon original issuance for the purpose of paying all or a portion of the Costs of any Capital Improvement. Additional Bonds may be issued in a principal amount sufficient to pay such Costs, including making of any deposits into the funds or accounts required by the provisions of the Twenty-Ninth Supplemental Resolution.

Refunding Bonds

One or more Series of Refunding Bonds may be issued, authenticated and delivered upon original issuance for the purpose of refunding all or any portion of the Outstanding Parity Obligations. Refunding Bonds may be issued in a principal amount sufficient to accomplish such refunding including providing amounts for the Costs of Issuance of such Refunding Bonds, and the making of any deposits into the funds and accounts required by the provisions of the Twenty-Ninth Supplemental Resolution.

Refunding Bonds of each Series shall be authenticated and delivered by the Fiscal Agent only upon receipt by the Fiscal Agent (in addition to the documents required by the Master Resolution and except as otherwise described below with respect to Crossover Refunding Obligations) of an Opinion of Bond Counsel to the effect that the Parity Obligations (or the portion thereof) to be refunded are deemed paid pursuant to the Issuing Instrument authorizing such Parity Obligations. Such Opinion of Bond Counsel may rely upon an Accountant's Certificate as to the sufficiency of available funds to pay such Parity Obligations. The Fiscal Agent may conclusively rely on such Opinion of Bond Counsel in determining whether the conditions precedent for the issuance and authentication of such Series of Refunding Bonds have been satisfied.

A Series of Refunding Bonds which constitute Crossover Refunding Obligations shall be authenticated and delivered by the Fiscal Agent upon the receipt of the Fiscal Agent (in addition to the documents required by the Master Resolution) of: (i) an Accountant's Certificate to the effect that the moneys scheduled to be available in the applicable Crossover Refunding Escrow are sufficient to pay the applicable Crossover Escrow Requirements when due; and (ii) a copy of the Crossover Escrow Instructions relating to such Series of Refunding Bonds and the Parity Obligations to be refunded.

Conditions to Issuance of Parity Obligations

Without regard to the last paragraph under this heading, the Department may at any time issue or enter into an obligation or commitment which is a Qualified Swap Agreement, provided (i) the Qualified Swap Agreement shall relate to a principal amount of Outstanding Parity Obligations or investments held under an Issuing Instrument for Parity Obligations, in each case specified by an Authorized Department Representative; (ii) the notional amount of the Qualified Swap Agreement shall not exceed the principal

amount of the related Parity Obligation or the amount of such investments, as applicable; and (iii) the Department has received a Rating Confirmation from each Rating Agency with respect to such Qualified Swap Agreement.

Without regard to the last paragraph under the heading, the Department may at any time issue Refunding Parity Obligations provided that the Fiscal Agent receives an Opinion of Bond Counsel to the effect that the Parity Obligations to be refunded are deemed paid pursuant to the Issuing Instrument authorizing such Parity Obligations; except that, with respect to Refunding Parity Obligations which constitute Crossover Refunding Obligations, in lieu of such Opinion of Bond Counsel, the Fiscal Agent shall have received an Accountant's Certificate to the effect that the moneys scheduled to be available in the applicable Crossover Refunding Escrow are sufficient to pay the applicable Crossover Escrow Requirements when due and a copy of the requested Crossover Escrow Instructions relating to such Refunding Parity Obligations and the Parity Obligations to be refunded.

Without regard to the last paragraph under this heading, the Department may issue the Initial Bonds.

Without regard to the last paragraph under this heading, the Department may enter into Credit Support Instruments or otherwise become obligated for Credit Provider Reimbursement Obligations from time to time.

The Department may, at any time and from time to time, issue any Additional Parity Obligations, provided the Department obtains or provides a certificate or certificates, prepared by the Department or at the Department's option by a Consultant, showing that the Adjusted Net Income for the applicable Calculation Period, which Calculation Period shall be selected by the Department in its sole discretion, shall have amounted to at least 1.25 times the Maximum Annual Adjusted Debt Service on all Parity Obligations to be Outstanding immediately after the issuance of the proposed Additional Parity Obligations. For purposes of preparing the certificate or certificates described in the foregoing, the Department and any Consultant may rely upon the books and records of the Department or any financial statements prepared by the Department which have not been subject to audit by an Independent Certified Public Accountant if audited financial statements for the particular Calculation Period selected by the Department are not available.

Conditions of Issuance of Subordinated Obligations

The Department may, at any time or from time to time, issue Subordinated Obligations without satisfying the requirements relating to Prior Obligations for any purpose in connection with the Water System, including, without limitation, the financing of a part of the cost of acquisition and construction of any additions to or improvements of the Water System or the refunding of any Subordinated Obligations or Outstanding Parity Obligations (or portions thereof). Such Subordinated Obligations shall be payable out of amounts in the Water Revenue Fund as may from time to time be available therefor, provided that any such payment shall be, and shall be expressed to be, subordinate and junior in all respects to the payment of such Parity Obligations as may be Outstanding from time to time, including Parity Obligations issued after the issuance of such Subordinated Obligations.

The resolution, indenture or other instrument authorizing the issuance of Subordinated Obligations shall contain provisions (which shall be binding on all owners of such Subordinated Obligations) not more favorable to the owners of such Subordinated Obligations than the following:

- (1) In the event of any insolvency or bankruptcy proceedings, and any receivership, liquidation, reorganization or other similar proceedings in connection therewith, relative to the

City, the Department or to its creditors, as such, or to its property, and in the event of any proceedings for voluntary liquidation, dissolution or other winding up of the City or the Department, whether or not involving insolvency or bankruptcy, the owners of all Outstanding Parity Obligations shall be entitled to receive payment in full of all principal and interest due on all such Parity Obligations in accordance with the provisions of the Issuing Instrument authorizing the issuance of such Parity Obligations before the owners of the Subordinated Obligations are entitled to receive any payment from the Water Revenue Fund on account of principal (and premium, if any) or interest upon the Subordinated Obligations.

(2) In the event that any Subordinated Obligation is declared due and payable before its expressed maturity because of the occurrence of an event of default (under circumstances when the provisions of (1) above shall not be applicable), the owners of all Parity Obligations Outstanding at the time such Subordinated Obligation so becomes due and payable because of such event of default, shall be entitled to receive payment in full of all principal and interest on all such Parity Obligations before the owners of such Subordinated Obligation are entitled to receive any accelerated payment from the Water Revenue Fund of principal (and premium, if any) or interest upon such Subordinated Obligation.

(3) If any default with respect to any Outstanding Parity Obligation shall have occurred and be continuing (under circumstances when the provisions of (1) above shall not be applicable), the owners of all Outstanding Parity Obligations shall be entitled to receive payment in full of all principal and interest on all such Parity Obligations as the same become due and payable before the owners of the Subordinated Obligations are entitled to receive, subject to the provisions of (5) below, any payment from the Water Revenue Fund of principal (and premium, if any) or interest upon the Subordinated Obligations.

(4) No Bondowner shall be prejudiced in his right to enforce subordination of the Subordinated Obligations by any act or failure to act on the part of the Department or the Fiscal Agent.

(5) The Subordinated Obligations may provide that the provisions (1), (2), (3) and (4) above are solely for the purpose of defining the relative rights of the Owners of the Bonds and the owners of all other Outstanding Parity Obligations on the one hand, and the owners of Subordinated Obligations on the other hand, and that nothing therein shall impair, as between the Department and the owners of the Subordinated Obligations, the obligation of the Department, which may be unconditional and absolute, to pay to the owners of such Subordinated Obligations the principal thereof and premium, if any, and interest thereon in accordance with their terms, nor shall anything therein prevent the owners of the Subordinated Obligations from exercising all remedies otherwise permitted by applicable law or thereunder upon default thereunder, subject to the rights under (1), (2), (3) and (4) above of the Owners of Outstanding Bonds and the owners of other Outstanding Parity Obligations to receive payment from the Water Revenue Fund otherwise payable or deliverable to the owners of the Subordinated Obligations; and the Subordinated Obligations may provide that, insofar as a trustee, fiscal agent or paying agent for such Subordinated Obligations is concerned, the foregoing provisions shall not prevent the application by such trustee, fiscal agent or paying agent of any moneys deposited with such trustee, fiscal agent or paying agent for the purpose of the payment of or on account of the principal (and premium, if any) and interest on such Subordinated Obligations if such trustee, fiscal agent or paying agent did not have knowledge at the time of such application that such payment was prohibited by the foregoing provisions.

Any Subordinated Obligations may have such rank or priority with respect to any other Subordinated Obligations as may be provided in the resolution, indenture or other instrument, authorizing the issuance or incurrence, or securing of such Subordinated Obligations and may contain such other provisions as are not in conflict with the provisions of the Master Resolution.

Credit Provider Bonds. Subject only to the provisions of the Master Resolution relating to bonds payable from specified sources, notwithstanding any other provision contained in the Master Resolution to the contrary, Bonds which are Credit Provider Bonds shall have terms and conditions, including terms of maturity, prepayment and interest rate, as shall be specified in the applicable Credit Support Agreement.

Funds and Accounts

Establishment. To ensure the payment when due and payable, whether at maturity or upon redemption, of the principal of, premium, if any, and interest on the Bonds, the Master Resolution establishes the following funds and accounts, to be maintained and applied as in the Master Resolution provided for so long as any of the Bonds are Outstanding: the Water System Revenue Bonds Reserve Fund to be held in the City Treasury by the Treasurer; the Water System Revenue Bonds Bond Service Fund to be held in the City Treasury by the Treasurer, comprised of an Interest Account, a Principal Account and a Sinking Fund Account; and the Water System Revenue Bonds Redemption Fund to be held in the City Treasury by the Treasurer.

In connection with the operation, maintenance, modification, renewal and expansion of the Water System, the Master Resolution establishes the Water System Expense Stabilization Fund, to be held by such bank, trust company or other depository, including the Treasurer, as the Department shall select, to be maintained and applied pursuant to the Master Resolution for so long as any Bonds remain Outstanding.

Reserve Fund. The Treasurer shall, from time to time, set aside and place in the Reserve Fund from the Water Revenue Fund, sums such that the full amount which the Treasurer is required to transfer to the Bond Service Fund and the Redemption Fund pursuant to the Twenty-Ninth Supplemental Resolution, shall be so set aside in the Reserve Fund, in cash, at the time such transfers are required to be made. Moneys set aside and placed in the Reserve Fund shall be separately invested and remain therein until from time to time transferred to the Fiscal Agent as provided in the Master Resolution, and shall not be used for any other purpose whatsoever except as otherwise permitted by the Master Resolution.

Bond Service Fund. (a) From sums set aside and placed in the Reserve Fund, the Treasurer shall transfer the following amounts at the following times for deposit in the following specified accounts within the Bond Service Fund: (1) for deposit in the Interest Account, on the first Business Day prior to each Interest Payment Date for any Bonds and on the first Business Day prior to each redemption date for any Bonds which is not an Interest Payment Date, an amount equal to the interest payable on the Outstanding Bonds on such Interest Payment Date, or the accrued interest to the redemption date on the Bonds to be redeemed, as applicable; provided, however, that such transfers shall be reduced by any available amounts on deposit in the Interest Account which are to be applied to such upcoming interest payment; (2) for deposit in the Principal Account, on the first Business Day prior to each date on which the principal of Outstanding Bonds which are Serial Obligations mature, an amount equal to the principal of such Outstanding Bonds maturing on such date; provided, however, that such transfers shall be reduced by any available amounts on deposit in the Principal Account which are to be applied to the upcoming principal payment; and (3) for deposit in the Sinking Fund Account, on the first Business Day prior to each Sinking Fund Installment due date for Outstanding Bonds which are Term Bonds, an amount equal to the Sinking Fund Installment due on such Sinking Fund Installment due date; provided, however, that

such transfers shall be reduced by any available amounts on deposit in the Sinking Fund Account which are to be applied to the redemption or payment of such Bonds on such Sinking Fund Installment due date and by the amount by which the Department's obligations to place moneys in the Reserve Fund for transfer to the Sinking Fund Account has been satisfied pursuant to paragraph (b) under this heading.

(b) In the event that Bonds for which Sinking Fund Installments have been established are purchased or redeemed at the option of the Department, such Bonds may be cancelled. If such cancelled Bonds are deposited with the Fiscal Agent for the credit of the Sinking Fund Account not less than forty-five 45 days prior to the due date for any Sinking Fund Installment for such Bonds, such deposit will satisfy (to the extent of 100% of the principal amount thereof) any obligation of the Department to set aside and place moneys in the Reserve Fund for transfer to the Sinking Fund Account with respect to such Sinking Fund Installments, and any Bond so cancelled shall no longer be deemed to be Outstanding for any purpose. Upon making the deposit with the Fiscal Agent of Bonds for which Sinking Fund Installments have been established as provided in paragraph (b) under this heading, the Department may specify the dates and amounts of Sinking Fund Installments for such Bonds by which the Department's obligations to place moneys in the Reserve Fund for transfer to the Sinking Fund Account as Sinking Fund Installments for such Bonds shall be satisfied.

(c) Except as hereafter in this paragraph provided: (i) amounts deposited in the Interest Account shall remain therein until expended for the payment of interest on the Bonds; (ii) amounts deposited in the Principal Account shall remain therein until expended for the payment of principal on the Bonds which are Serial Obligations; and (iii) amounts deposited in the Sinking Fund Account shall remain therein until expended for the redemption or payment at maturity of Bonds which are Term Obligations.

In the event one or more Paying Agents have been appointed for a Series of Bonds, moneys may be transferred by the Treasurer to such Paying Agent from the appropriate account in the Bond Service Fund for deposit into a special trust account to ensure the payment when due of the principal of, premium, if any, and interest on such Bonds. In the event that any principal of or interest on any Bond has been paid by a Credit Provider pursuant to a Credit Support Instrument, amounts in the appropriate accounts in the Bond Service Fund with respect to such Bond, and any such amounts transferred by the Treasurer from the Bond Service Fund to a Paying Agent for such Bond pursuant to the Master Resolution, shall be paid to such Credit Provider as a reimbursement of the amounts so paid.

Redemption Fund. At least one Business Day prior to each date fixed for the redemption of Bonds other than from Sinking Fund Installments, the Treasurer shall transfer from the Reserve Fund to the Redemption Fund, an amount equal to the principal of, and any applicable redemption premium on, the Bonds to be redeemed. Said moneys shall be set aside in said Fund and shall be applied on or after the redemption date to the payment of principal of, and premium, if any, on the Bonds to be redeemed and, except as otherwise provided in the Master Resolution, shall be used only for that purpose. Any interest on the Bonds due on or prior to the redemption date shall be paid from the Interest Account in the Bond Service Fund. In the event one or more Paying Agents have been appointed for Bonds which are to be redeemed with moneys in the Redemption Fund, amounts in the Redemption Fund may be transferred from such Fund by the Treasurer to a Paying Agent for the Bonds to be redeemed for deposit into a special trust account held by such Paying Agent to ensure the payment when due the principal of and premium, if any, on the Bonds to be redeemed. In the event that the principal of or any premium on a Bond due upon the redemption thereof has been paid by a Credit Provider pursuant to a Credit Support Instrument, amounts in the Redemption Fund with respect to such principal and premium, and any such amounts transferred by the Treasurer from the Redemption Fund to a Paying Agent for such Bonds pursuant to the Master Resolution, shall be paid to such Credit Provider as a reimbursement of the amounts so paid. If, after all of the Bonds designated for redemption have been redeemed and cancelled

or paid and cancelled, there are moneys remaining in the Redemption Fund, said moneys shall be transferred to the Water Revenue Fund; provided, however, that if said moneys are part of the proceeds of Refunding Obligations said moneys shall be applied as provided in the Issuing Instrument authorizing the issuance of such Refunding Obligations.

Expense Stabilization Fund. Moneys shall be deposited in the Expense Stabilization Fund in such amounts, at such times and from such sources as shall be determined by the Department in its sole discretion. Moneys on deposit in the Expense Stabilization Fund may be withdrawn at any time upon the order of the Auditor or Assistant Auditor and applied to any lawful purpose in connection with the Water System, including without limitation payment of the costs and expenses of operating and maintaining of the Water System, payment of Debt Service on Parity Obligations, payments of principal, premium or interest on Subordinated Obligations, payment of Costs of Capital Improvements, payment of the Costs of Issuance of Parity Obligations or payment of the costs of issuance of Subordinated Obligations.

Moneys Held for Certain Bonds. Moneys held by the Treasurer in the Bond Service Fund and the Redemption Fund, and moneys transferred by the Treasurer to any Paying Agent for Bonds from the Bond Service Fund or the Redemption Fund, in each case for the payment of the interest, principal or redemption premium due on any date with respect to particular Bonds shall, on and after such date and pending such payment, be set aside on its books and held in trust without liability for further interest thereon for the Owners entitled thereto.

Investments. Moneys held in the Reserve Fund, the Bond Service Fund, the Redemption Fund and the Expense Stabilization Fund may, subject to the Tax Certificates, be invested and reinvested to the fullest extent practicable in any investment in which the City can legally invest its funds, which mature not later than such times as shall be necessary to provide moneys when needed for payments to be made from such Funds. Any investment earnings on moneys on deposit in the Reserve Fund, the Bond Service Fund, the Redemption Fund and the Expense Stabilization Fund shall be deposited in such respective Funds and be used in the same manner as other amounts on deposit in such Funds.

Covenants

No Priority. The Department shall not issue any Obligation the payments from the Water Revenue Fund with respect to which from the Water Revenue Fund are senior or prior in right to the payment from the Water Revenue Fund of the Bonds.

Sale of Water System. The Water System shall not be sold or otherwise disposed of, as a whole or substantially as a whole, unless such sale or other disposition be so arranged as to provide for a continuance of payments into the Water Revenue Fund sufficient in amount to permit payment therefrom when due, at maturity or upon redemption, of the principal of, premiums, if any, and interest on all Outstanding Bonds, or to provide for a continuance of payments sufficient for such purposes into some other fund charged with the payment of such principal, interest and premiums.

Restrictions on Transfers. No transfers out of the Water Revenue Fund under the provisions of Section 344 of the Charter shall be made in any Fiscal Year: (1) in excess of the Net Income of the Water System, after depreciation, amortization and interest chargeable to income account, as shown by the books of the Department for the Preceding Fiscal Year; or (2) which would result in the amount of the Surplus derived from the operation of the Water System as shown by the books of the Department as of the end of the Preceding Fiscal Year, less the aggregate of all such transfers which have been made since the close of the Preceding Fiscal Year and of all such transfers not then made, but to the making of which the consent of the Board has been given, being less than thirty-three and one-third percent (33-1/3%) of

the total indebtedness, including current liabilities, payable out of the Water Revenue Fund and outstanding as of the date not more than ten days prior to the date of such transfer.

Audits. The Department will cause the books and accounts of the Water System, including the Water Revenue Fund, to be audited annually by Independent Certified Public Accountants and will make available for inspection by the Owners of the Outstanding Bonds, at the Principal Office of the Fiscal Agent, a copy of the report of such accountants and will also furnish a copy thereof, upon request, to any Owner of an Outstanding Bond.

Payments From Water Revenue Fund. All revenues from every source collected by the Department in connection with its possession, management and control of the Water System will be deposited in the City Treasury to the credit of the Water Revenue Fund. From amounts in the Water Revenue Fund, the Department will pay, without priority: (a) the costs and expenses of operating and maintaining the Water System; (b) the principal, redemption premium, if any, and interest on the Outstanding Bonds and other Parity Obligations; and (c) all other obligations payable from the Water Revenue Fund which are not, by their terms, Subordinated Obligations.

Tax Matters. In order to maintain the exclusion from gross income for federal income tax purposes of interest on the Bonds which are Tax-Exempt Securities, the Department covenants to comply with each applicable requirement of Section 103 and Sections 141 through 150 of the Code. In furtherance of this covenant, the Department agrees to comply with the covenants contained in each of the Tax Certificates. The Fiscal Agent shall comply with any instructions received from the Department in order to comply with the Tax Certificates.

Punctual Payment. The Department will punctually pay or cause to be paid the principal and interest to become due on the Outstanding Parity Obligations in strict conformity with the terms of the applicable Issuing Instrument, and will faithfully observe and perform all of the conditions, covenants and requirements of the Outstanding Parity Obligations and the applicable Issuing Instruments.

Against Encumbrances. The Department will not create, or permit the creation of, any mortgage, pledge, encumbrance or lien upon the Water System or any property essential to the proper operation of the Water System or to the maintenance of the Water Revenue Fund.

Maintenance and Operation of the Water System. The Department will cause the Water System to be maintained in good repair, working order and condition at all times, and will continuously operate the Water System in an efficient and economical manner, and so that all lawful orders of any governmental agency or authority having jurisdiction in the premises shall be complied with, but the Department shall not be required to comply with any such orders so long as the validity or application thereof shall be contested in good faith or the failure to comply will not have a material adverse effect on the operation or financial condition of the Water System. The Department further covenants and agrees that it will at all times maintain and comply with all necessary permits and licenses issued by governmental authorities having jurisdiction unless the lawful requirement thereof is being contested in good faith or the failure to comply will not have a material adverse effect on the operation or financial condition of the Water System.

Payment of Taxes and Claims. The Department will, from time to time, duly pay and discharge, or cause to be paid and discharged, any taxes, assessments or other governmental charges lawfully imposed upon the Water System or upon the Water Revenue Fund when the same shall become due (except to the extent such charges may be contested in good faith), as well as any lawful claim for labor, materials or supplies which, if unpaid, might by law become a lien or charge upon the Water Revenue Fund or the Water System.

Amendments to Master Resolution

The provisions of the Master Resolution may be modified, amended or supplemented from time to time and at any time when the written consent of each Credit Provider whose consent is required by a Supplemental Resolution or Credit Support Agreement and of the Owners of at least a majority in aggregate principal amount of the Bonds then Outstanding, shall have been filed with the Fiscal Agent; or if less than all of the Outstanding Bonds are affected the written consent of the Owners of at least a majority in aggregate principal amount of all affected Outstanding Bonds; provided that if such modification, amendment or supplement shall, by its terms, not take effect so long as any Bonds of any particular Series, Subseries and maturity remain Outstanding, and, with respect to Bonds which are Tender Indebtedness if the conditions described below with respect to Tender Indebtedness are satisfied, the consent of the Owners of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of any such calculation of Outstanding Bonds. No such modification, amendment or supplement shall (1) reduce the aforesaid percentage of Bonds the consent of the Owners of which is required to effect any such modification, amendment or supplement without the consent of the Owners of all of the Bonds then Outstanding; or (2) modify the rights or obligations of any Fiduciary without the consent of such Fiduciary; or (3) modify the rights of the Holders of the Outstanding Corresponding Prior Bonds described in the next paragraph without the written consent of the Holders of at least sixty percent (60%) of the aggregate principal amount of each issue of the Outstanding Prior Bonds which would be affected by such modification.

In the event any Supplemental Resolution would amend, modify or supplement any of the covenants contained in the Master Resolution and such amendment, modification or supplement will result in an amendment, modification or supplement of any Corresponding Prior Bond Resolution for Outstanding Corresponding Prior Bonds, then such Supplemental Resolution may be adopted by the Board only when the written consent of each Credit Provider whose consent is required by a Supplemental Resolution or Credit Support Agreement and of the Owners and/or Holders of at least a majority in combined aggregate principal amount of the then Outstanding Bonds and Corresponding Prior Bonds shall have been filed with the Fiscal Agent or, if less than all of the then Outstanding Bonds or Outstanding Corresponding Prior Bonds are affected, the written consent of the Owners and/or Holders of at least a majority in combined aggregate principal amount of all affected Outstanding Bonds and Outstanding Corresponding Prior Bonds; provided that if such modification or amendment shall, by its terms, not take effect so long as any Bonds of any particular Series, Subseries and maturity or Outstanding Corresponding Prior Bonds of any issue and maturity remain Outstanding, and, with respect to Bonds which are Tender Indebtedness if the conditions described in the next paragraph are satisfied, the consent of the Owners of such Bonds and the Holders of such Outstanding Corresponding Prior Bonds shall not be required and such Bonds and such Corresponding Prior Bonds shall not be deemed to be Outstanding for the purpose of any such calculation of Outstanding Bonds and Corresponding Prior Bonds.

Notwithstanding anything to the contrary under this heading, the provisions of the Master Resolution may also be modified, amended or supplemented by a Supplemental Resolution or Supplemental Resolutions, including amendments which would otherwise be described in the first paragraph under this heading, without the consent of the Owners of Bonds constituting Tender Indebtedness if either (i) the effective date of such Supplemental Resolution is a date on which such Bonds are subject to mandatory tender for purchase pursuant to the Twenty-Ninth Supplemental Resolution or (ii) the notice provided in the Master Resolution is given to Owners of such Bonds at least thirty (30) days before the effective date of such Supplemental Resolution, and on or before such effective date, the Owners of such Bonds have the right to demand purchase of such Bonds pursuant to the Twenty-Ninth Supplemental Resolution.

For purposes of the foregoing, it shall not be necessary that consents with respect to any particular percentage of Outstanding Bonds or Outstanding Corresponding Prior Bonds be obtained but it shall be sufficient for such purposes if consent of the Owners and/or Holders of a majority in aggregate principal amount of the combination of Outstanding Bonds and Outstanding Corresponding Prior Bonds (or the affected Outstanding Bonds and Corresponding Prior Bonds) shall be obtained.

Prior to the adoption of any Supplemental Resolution requiring Bondowner consent, the Department shall cause notice of the proposed adoption of such Supplemental Resolution to be mailed, by first class mail, postage prepaid, to the Owners of all Outstanding Bonds (or the affected Outstanding Bonds) at their addresses appearing on the Bond Register and to the Holders of all Outstanding Corresponding Prior Bonds (or the affected Outstanding Corresponding Prior Bonds). Such notice shall briefly set forth the nature of the proposed Supplemental Resolution and shall state that copies thereof are on file at the office of the Fiscal Agent for inspection by each Owner of an Outstanding Bond and to each Holder of an Outstanding Corresponding Prior Bond.

The Master Resolution may be supplemented, without the consent of any Owner of Bonds, to provide for the issuance of a Series of Additional Bonds or a Series of Refunding Bonds in accordance with the terms and conditions of the Master Resolution, and establishing the terms and conditions thereof, including the rights of any Credit Provider for such Additional Bonds or Refunding Bonds, which may include permitting such Credit Provider to act for and on behalf of the Owners of such Additional Bonds or Refunding Bonds for any or all purposes of the Twenty-Ninth Supplemental Resolution except that no such Credit Provider shall be authorized to extend the fixed maturity of any Bond, or reduce the principal amount thereof, or reduce the amount of any Sinking Fund Installment therefor, or extend the due date of any such Sinking Fund Installment, or reduce the rate of interest thereon or extend the time of payment of interest thereon, without the consent of the Owner of each Bond so affected; or except as otherwise provided with respect to a Bond constituting Tender Indebtedness in the Supplemental Resolution authorizing such Bond and subject to the satisfaction of the conditions of the Master Resolution, reduce any redemption premium due on the redemption of any Bond or change the date or dates when any Bond is subject to redemption.

The Master Resolution and the rights and obligations of the Department, the Fiduciaries and the Owners of the Outstanding Bonds may also be modified, amended or supplemented in any respect with the consent of each Credit Provider whose consent is required by a Supplemental Resolution or a Credit Support Agreement but without the consent of any Owners of Bonds (but with the consent of any affected Fiduciary), so long as such modification, amendment or supplement shall not materially, adversely affect the interests of the Owners of the Outstanding Bonds.

Notwithstanding anything to the contrary in the Master Resolution, the provisions of the Master Resolution may also be modified, amended or supplemented, including amendments which would otherwise require Bondowner consent, without the consent of the Owners of Bonds constituting Tender Indebtedness if either (i) the effective date of such modification or amendment is a date on which such Bonds are subject to mandatory tender for purchase pursuant to the Twenty-Ninth Supplemental Resolution or (ii) the notice provided in the Master Resolution is given to Owners of such Bonds at least thirty (30) days before the effective date of such Supplemental Resolution, and on or before such effective date, the Owners of such Bonds have the right to demand purchase of such Bonds pursuant to the Twenty-Ninth Supplemental Resolution.

If the Supplemental Resolution authorizing the issuance of a Series of Bonds provides that a Credit Provider for all or any portion of the Bonds of such Series shall have the right to consent to Supplemental Resolutions which require Bondowner consent, then for the purposes of sending notice of any proposed Supplemental Resolution and for determining whether the Owners of the requisite

percentage of Bonds have consented to such Supplemental Resolution, but references to the Owners of such Bonds shall be deemed to be to the applicable Credit Provider.

Upon the adoption of any Supplemental Resolution pursuant to the applicable provisions of the Master Resolution, the Master Resolution shall be deemed to be modified, amended and supplemented in accordance therewith, and the respective rights, duties and obligations under the Master Resolution of the Department, the Fiduciaries and all Owners of Outstanding Bonds shall thereafter be determined, exercised and enforced subject in all respects to such modification, amendment and supplement, and all the terms and conditions of any such Supplemental Resolution shall be deemed to be part of the terms and conditions of the Master Resolution for any and all purposes.

For purposes of modifications, amendments and supplements to the Master Resolution, Bonds owned or held by or for the account of the Department, the City, or any funds of the Department or the City, shall not be deemed Outstanding for the purpose of consent or other action or any calculation of Outstanding Bonds, and neither the Department nor the City shall be entitled with respect to such Bonds to give any consent or take any other action provided for in the Master Resolution with respect to Bondowner consent.

Notwithstanding anything to the contrary described under this heading, if authorized by the Supplemental Resolution authorizing the issuance of a Bond constituting Tender Indebtedness, any premium due on the redemption of such Bond and the date or dates when such Bond is subject to redemption may be modified, amended or supplemented as provided in such Supplemental Resolution if either: (i) the effective date of such modification or amendment is a date on which such Bond is subject to mandatory tender for purchase pursuant to such Supplemental Resolution; or (ii) notice of such modification or amendment has been mailed to the Owner of such Bond at the address set forth in the Bond Register at least thirty (30) days before the effective date of such modification or amendment and on or before such effective date, the Owner of such Bond has the right to demand purchase of such Bond pursuant to such Supplemental Resolution.

Defeasance

Bonds (or portions of Bonds), or interest installments on Bonds, for the payment or redemption of which moneys shall have been set aside and shall be held in trust by an Escrow Agent (through deposit pursuant to a Supplemental Resolution of funds for such payment or redemption or otherwise) at the maturity, redemption date, or interest payment date thereof, as applicable, shall be deemed to have been paid within the meaning and with the effect expressed in the Master Resolution. Any Outstanding Bond (or any portion thereof such that both the portion thereof which is deemed paid and the portion which is not deemed paid pursuant to the Master Resolution shall be in an Authorized Denomination) shall prior to the maturity or redemption date thereof be deemed to have been paid within the meaning and with the effect expressed in the Master Resolution (except that the obligations under the applicable Bond Resolution with respect to the payment of the principal amount of, and any redemption premiums on, and the interest on the Bonds from the sources provided, to the transfer and exchange of Bonds and to the giving of the notices of the redemption of Bonds to be redeemed as provided in the Master Resolution shall continue) if (1) in case said Bond (or portion thereof) is to be redeemed on any date prior to maturity, the Department shall have given the Fiscal Agent irrevocable instructions to give notice of redemption of such Bond (or portion thereof) on said date as provided in the Master Resolution, (2) there shall have been deposited with an Escrow Agent either moneys in an amount which shall be sufficient, or Defeasance Securities, the principal of and the interest on which when due shall provide moneys which, together with the moneys, if any, deposited with such Escrow Agent at the same time, shall be sufficient, in each case as evidenced by an Accountant's Certificate, to pay when due the principal amount of, and any redemption premiums on, said Bond (or portion thereof) and interest due and to become due on said

Bond (or portion thereof) on and prior to the redemption date or maturity date thereof, as the case may be, and (3) if such Bond (or portion thereof) is not to be paid or redeemed within 60 days of the date of the deposit required by (2) above, the Department shall have given the Fiscal Agent, in form satisfactory to it, instructions to mail, as soon as practicable, by first class mail, postage prepaid, to the Owner of such Bond, at the last address, if any, appearing upon the Bond Register, a notice that the deposit required by (2) above has been made with an Escrow Agent and that said Bond (or the applicable portion thereof) is deemed to have been paid in accordance with the Master Resolution and stating such maturity or redemption date upon which moneys are to be available for the payment of the principal amount of, and any redemption premiums on, said Bond. Any notice given pursuant to clause (3) of this paragraph with respect to Bonds which constitute less than all of the Outstanding Bonds of any Series, Subseries and maturity shall specify the letter and number or other distinguishing mark of each such Bond.

Any notice given pursuant to clause (3) of the preceding paragraph with respect to less than the full principal amount of a Bond shall specify the principal amount of such Bond which shall be deemed paid and notify the Owner of such Bond that such Bond must be surrendered as provided in the Master Resolution. The receipt of any notice required by the Master Resolution in connection with the defeasance of Bonds shall not be a condition precedent to any Bond being deemed paid in accordance with the applicable Bond Resolution and the failure of any Owner to receive any such notice shall not affect the validity of the proceedings for the payment of Bonds.

Neither Defeasance Securities nor moneys deposited with an Escrow Agent for the payment of Bonds or the interest thereon, nor principal or interest payments on any such Defeasance Securities, shall be withdrawn or used for any purpose other than, and shall be held in trust for, the payment of the principal amount of, and any redemption premiums on, said Bonds and the interest thereon; provided that any cash received from principal or interest payments on such Defeasance Securities deposited with an Escrow Agent, (A) to the extent such cash shall not be required at any time for such payment, as evidenced by an Accountant's Certificate, shall be paid over upon the written direction of an Authorized Department Representative, free and clear of any trust, lien, pledge or assignment securing said Bonds, and (B) to the extent such cash shall be required for such payment at a later date, shall, to the extent practicable, at the written direction of an Authorized Department Representative, be reinvested in Defeasance Securities maturing at times and in amounts, which together with the other funds to be available to the Escrow Agent for such purpose, shall be sufficient to pay when due the principal amount of, and any redemption premiums on, said Bonds and the interest to become due on said Bonds on and prior to such redemption date or maturity date thereof, as the case may be, as evidenced by an Accountant's Certificate.

Nothing in the Master Resolution shall prevent the Department from substituting for the Defeasance Securities held for the payment or redemption of Bonds (or portions thereof) other Defeasance Securities which, together with the moneys held by the Escrow Agent for such purpose, as evidenced by an Accountant's Certificate, shall be sufficient to pay when due the principal of, and any redemption premiums and the interest on, the Bonds (or portions thereof) to be paid or redeemed, and the interest due on the Bonds (or portions thereof) to be paid or redeemed at the times established with the initial deposit of Defeasance Securities for such purpose provided that the Department shall deliver to the Escrow Agent a Favorable Opinion of Bond Counsel with respect to such substitution.

If there shall be deemed paid pursuant to the Master Resolution less than all of the full principal amount of a Bond, the Department shall execute and the Fiscal Agent shall authenticate and deliver, upon the surrender of such Bond, without charge to the Owner of such Bond, a new Bond or Bonds for the principal amount of the Bond so surrendered which is deemed paid pursuant to the Master Resolution and another new Bond or Bonds for the balance of the principal amount of the Bond so surrendered, in each case of like Series, Subseries, maturity and other terms, and in any of the Authorized Denominations.

Upon the deposit with an Escrow Agent, in trust, at or before maturity or the applicable redemption date, of money or Defeasance Securities in the necessary amount to pay or redeem Outstanding Bonds (or portions thereof), and to pay the interest thereto to such maturity or redemption date, as applicable (provided that, if such Bonds are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as provided in the Master Resolution or provision satisfactory to the Fiscal Agent shall have been made for giving such notice), all liability of the Department in respect of such Bonds shall cease, terminate and be completely discharged, except that the Department shall remain liable for such payment but only from, and the Bondowners shall thereafter be entitled only to payment (without interest accrued thereon after such redemption date or maturity date, as applicable) out of, the money and Defeasance Securities deposited with the Escrow Agent as aforesaid for their payment; provided that no Bond which constitutes Tender Indebtedness shall be deemed to be paid within the meaning of the applicable Bond Resolution unless the Purchase Price of such Bond, if tendered for purchase in accordance with the applicable Bond Resolution, could be paid when due from such moneys or Defeasance Securities (as evidenced by an Accountant's Certificate) or a Credit Support Instrument provided in connection with the Purchase Price.

Credit Providers

Except as limited by the Master Resolution, a Supplemental Resolution authorizing a Series of Bonds may provide that any Credit Provider providing a Credit Support Instrument with respect to Bonds of such Series may exercise any right under the Master Resolution or the Supplemental Resolution authorizing the issuance of such Series of Bonds given to the Owners of the Bonds to which such Credit Support Instrument relates.

Unclaimed Moneys

Anything in the Master Resolution or any Supplemental Resolution to the contrary notwithstanding, any moneys held by the Fiscal Agent, an Escrow Agent or any Paying Agent in trust for the payment and discharge of any of the Bonds which remain unclaimed for two years after the date when such Bonds have become due and payable, either at their stated maturity dates, tender for purchase or by call for redemption, if such moneys were held by the Fiscal Agent, an Escrow Agent or a Paying Agent at such date, or for two years after the date of deposit of such moneys if deposited with the Fiscal Agent, an Escrow Agent or a Paying Agent after the date when such Bonds or the Purchase Price thereof became due and payable, shall, at the written request of an Authorized Department Representative be repaid by such Fiscal Agent, Escrow Agent or Paying Agent to the Department, as its absolute property and free and clear of any trust, lien, pledge or assignment securing said Bonds, and such Fiscal Agent, Escrow Agent or Paying Agent shall thereupon be released and discharged with respect thereto and the Owners of such Bonds shall look only to the Department for the payment of such Bonds; provided, however, that before being required to make any such payment to the Department, the Fiscal Agent, the Escrow Agent or the Paying Agent, as applicable, shall, at the expense of the Department, mail, postage prepaid, to the Owners of such Bonds, at the last address, if any, appearing upon the Bond Register, a notice that said moneys remain unclaimed and that, after a date named in said notice, which date shall be not less than 30 days after the date of the mailing of such notice, the balance of such moneys then unclaimed shall be returned to the Department.

TWENTY-NINTH SUPPLEMENTAL RESOLUTION

References to Auditor

Whenever in the Master Resolution reference is made to the Auditor, such references are deemed to refer to the Chief Financial Officer.

Amendments Permitted

The provisions of the Twenty-Ninth Supplemental Resolution, and the rights and obligations of the Department and of the Owners of the Outstanding Series A Bonds and of the Fiduciaries for the Series A Bonds, may be modified, amended or supplemented from time to time and at any time when the written consent of each Credit Provider and the Owners of at least a majority in aggregate principal amount of the Series A Bonds then Outstanding shall have been filed with the Fiscal Agent, or if less than all of the Outstanding Series A Bonds are affected the written consent of the Owners of at least a majority in aggregate principal amount of all affected Outstanding Series A Bonds; provided that if such modification, amendment or supplement shall, by its terms, not take effect so long as any Series A Bonds of any particular maturity remain Outstanding, the consent of the Owners of such Series A Bonds shall not be required and such Series A Bonds shall not be deemed to be Outstanding for the purpose of any such calculation of Series A Bonds Outstanding. No such modification, amendment or supplement shall (1) extend the fixed maturity of any Series A Bond, or reduce the principal amount thereof or any redemption premium thereon, or reduce the amount of any Sinking Fund Installment therefor, or extend the due date of any Sinking Fund Installment, or reduce the rate of interest thereon or extend the time of payment of interest thereon, without the consent of the Owner of each Series A Bond so affected; or (2) reduce the aforesaid percentage of Series A Bonds, the consent of the Owners of which is required to effect any such modification, amendment or supplement without the consent of the Owners of all of the Series A Bonds then Outstanding; or (3) modify the rights or obligations of any Fiduciary for the Series A Bonds without the consent of such Fiduciary.

The Twenty-Ninth Supplemental Resolution and the rights and obligations of the Department, the Fiduciaries and the Owners of the Series A Bonds may also be modified or amended in any respect with the consent of each Credit Provider whose consent is required by the Twenty-Ninth Supplemental Resolution but without the consent of any Owners of Series A Bonds (but with the consent of any affected Fiduciary), so long as such modification or amendment shall not materially, adversely affect the interests of the Owners of the Series A Bonds.

Prior to the adoption of any Supplemental Resolution for any purpose, the Department shall cause notice of the proposed adoption of such Supplemental Resolution to be mailed, by first class mail, postage prepaid, to the Owners of all Outstanding Series A Bonds (or the affected Outstanding Series A Bonds) at their addresses appearing on the Bond Register. Such notice shall briefly set forth the nature of the proposed Supplemental Resolution and shall state that copies thereof are on file at the Principal Office of the Fiscal Agent for inspection by each Owner of an Outstanding Series A Bond.

Upon the adoption of any Supplemental Resolution amending, modifying or supplementing the provisions of the Twenty-Ninth Supplemental Resolution, the Twenty-Ninth Supplemental Resolution shall be deemed to be modified, amended and supplemented in accordance therewith, and the respective rights, duties and obligations under the Twenty-Ninth Supplemental Resolution of the Department, the Fiduciaries for the Series A Bonds and all Owners of Outstanding Series A Bonds shall thereafter be determined, exercised and enforced subject in all respects to such modification, amendment and supplement, and all the terms and conditions of any such Supplemental Resolution shall be deemed to be part of the terms and conditions of the Twenty-Ninth Supplemental Resolution for any and all purposes.

For purposes of obtaining consents to amendments to the Twenty-Ninth Supplemental Resolution, Series A Bonds owned or held by or for the account of the Department, the City, or any funds of the Department or the City, shall not be deemed Outstanding.

Credit Providers

The Twenty-Ninth Supplemental Resolution provides that certain rights, including the right to consent to amendments, modifications, and supplements to the Master Resolution and the Twenty-Ninth Supplemental Resolution, of Owners of Series A Bonds secured by a Credit Support Instrument shall instead be exercised by the Credit Provider of such Credit Support Instrument.

APPENDIX E
FORM OF BOND COUNSEL OPINION

Upon the delivery of the Series A Bonds, Orrick, Herrington & Sutcliffe LLP, Bond Counsel to the Department, proposes to deliver its final approving opinion with respect to the Series A Bonds in substantially the following form:

[Date of Delivery]

Board of Water and Power Commissioners
of the City of Los Angeles

Department of Water and Power of the City of Los Angeles
Water System Revenue Bonds, 2020 Series A
(Final Opinion)

Ladies and Gentlemen:

We have acted as Bond Counsel to the Department of Water and Power of the City of Los Angeles (the "Department") in connection with the issuance of \$204,255,000 aggregate principal amount of its Water System Revenue Bonds, 2020 Series A (the "2020 Series A Bonds"), issued pursuant to The Charter of The City of Los Angeles (the "Charter") and pursuant to Resolution No. 4591, adopted by the Board of Water and Power Commissioners of the City of Los Angeles (the "Board") on February 6, 2001 (the "Master Resolution"), as supplemented by Resolution No. 4972, adopted by the Board on April 21, 2020 (the "Twenty-Ninth Supplemental Resolution" and, together with the Master Resolution, the "Bond Resolution"). Capitalized terms not otherwise defined herein shall have the meanings set forth in the Bond Resolution.

In such connection, we have reviewed the Bond Resolution, the 2020 Series A Bonds Tax Certificate, certificates of the Department and others, opinions from the Office of the City Attorney of the City of Los Angeles and others, and such other documents, opinions and matters to the extent we deemed necessary to render the opinions set forth herein.

The Bond Resolution provides that the 2020 Series A Bonds are special obligations of the Department payable from the Water Revenue Fund on a parity with the costs and expenses of operating and maintaining the Water System, the Outstanding Parity Obligations and any Parity Obligations that may be issued hereafter, and all other obligations payable from the Water Revenue Fund which are not Subordinated Obligations.

The opinions expressed herein are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. Such opinions may be affected by actions taken or omitted or events occurring after original delivery of the 2020 Series A

Bonds on the date hereof. We have not undertaken to determine, or to inform any person, whether any such actions are taken or omitted or events do occur or any other matters come to our attention after original delivery of the 2020 Series A Bonds on the date hereof. Accordingly, this letter speaks only as of its date and is not intended to, and may not, be relied upon or otherwise used in connection with any such actions, events or matters. Our engagement with respect to the 2020 Series A Bonds has concluded with their issuance, and we disclaim any obligation to update this letter. We have assumed the genuineness of all documents and signatures presented to us (whether as originals or as copies) and the due and legal execution and delivery thereof by, and validity against, any parties other than the Department. We have assumed, without undertaking to verify, the accuracy of the factual matters represented, warranted or certified in the documents, and of the legal conclusions contained in the opinions, referred to in the second paragraph hereof. Furthermore, we have assumed compliance with all covenants and agreements contained in the Bond Resolution and the 2020 Series A Bonds Tax Certificate, including without limitation covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the 2020 Series A Bonds to be included in gross income for federal income tax purposes. We call attention to the fact that the rights and obligations under the 2020 Series A Bonds, the Bond Resolution and the 2020 Series A Bonds Tax Certificate and their enforceability may be subject to bankruptcy, insolvency, receivership, reorganization, arrangement, fraudulent conveyance, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against municipal corporations in the State of California. We express no opinion with respect to any indemnification, contribution, liquidated damages, penalty (including any remedy deemed to constitute or having the effect of a penalty), right of set-off, arbitration, judicial reference, choice of law, choice of venue, choice of forum, non-exclusivity of remedies, waiver or severability provisions contained in the foregoing documents. Our services did not include financial or other non-legal advice. Finally, we undertake no responsibility for the accuracy, completeness or fairness of the Official Statement or other offering material relating to the 2020 Series A Bonds and express no opinion with respect thereto.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The Bond Resolution has been duly adopted by the Board and constitutes the valid and binding obligation of the Department.
2. The 2020 Series A Bonds constitute the valid and binding special obligations of the Department payable only from the Water Revenue Fund and not out of any other fund or moneys of the Department or the City. The 2020 Series A Bonds do not constitute or evidence an indebtedness of the City or a lien or charge on any property or the general revenues of the City. Neither the faith and credit nor the taxing power of the City is pledged to the payment of the 2020 Series A Bonds.
3. Interest on the 2020 Series A Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from State of California personal income taxes. Interest on the 2020 Series A Bonds is not a specific preference item for purposes of the federal alternative minimum tax. We express no opinion regarding other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the 2020 Series A Bonds.

Faithfully yours,

APPENDIX F

FORM OF CONTINUING DISCLOSURE CERTIFICATE

This Continuing Disclosure Certificate (the “Disclosure Certificate”) is executed and delivered by the Department of Water and Power of the City of Los Angeles (the “Department”) in connection with the issuance of \$204,255,000 aggregate principal amount of the Department’s Water System Revenue Bonds, 2020 Series A (the “Bonds”). The Bonds are being issued pursuant to Section 609 of The Charter of The City of Los Angeles (the “Charter”), relevant ordinances of the City of Los Angeles, California (the “City”), and Resolution No. 4591, adopted by the Board of Water and Power Commissioners of the City of Los Angeles (the “Board”) on February 6, 2001, as amended (the “Master Resolution”), as supplemented by Resolution No. 4972 adopted by the Board on April 21, 2020 (the “Twenty-Ninth Supplemental Resolution,” and together with the Master Resolution, the “Bond Resolution”). The Department covenants and agrees as follows:

Section 1. Purpose of this Disclosure Certificate. This Disclosure Certificate is being executed and delivered by the Department for the benefit of the Owners and Beneficial Owners of the Bonds and in order to assist the Participating Underwriter in complying with the Rule.

Section 2. Definitions. In addition to the definitions set forth in the Bond Resolution, which apply to any capitalized term used in this Disclosure Certificate unless otherwise defined in this Section, the following capitalized terms shall have the following meanings:

“Annual Report” shall mean any Annual Report provided by the Department pursuant to, and as described in, Sections 3 and 4 of this Disclosure Certificate.

“Beneficial Owner” shall mean any person that (a) has the power, directly or indirectly, to vote or consent with respect to, or to dispose of ownership of, any Bonds (including persons holding Bonds through nominees, depositories or other intermediaries), or (b) is treated as the owner of any Bonds for federal income tax purposes.

“Dissemination Agent” shall mean the Department, acting in its capacity as Dissemination Agent hereunder, or any other successor Dissemination Agent designated in writing by the Department.

“EMMA System” shall mean the MSRB’s Electronic Municipal Market Access system, or such other electronic system designated by the MSRB.

“Financial Obligation” shall mean, for purposes of the Listed Events set out in Section 5(a)(10) and Section (5)(b)(8) of this Disclosure Certificate, a (i) debt obligation; (ii) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (iii) guarantee of (i) or (ii). The term “Financial Obligation” shall not include municipal securities (as defined in the Securities Exchange Act of 1934, as amended) as to which a final official statement (as defined in the Rule) has been provided to the MSRB consistent with the Rule.

“Fiscal Year” shall mean the one-year period ending on June 30 of each year or such other period of 12 months designated by the Department as its Fiscal Year.

“GASB” shall mean the Governmental Accounting Standards Board.

“Listed Events” shall mean any of the events listed in Section 5(a) or (b) of this Disclosure Certificate.

“MSRB” shall mean the Municipal Securities Rulemaking Board, or any successor thereto.

“Official Statement” shall mean the final official statement of the Department relating to the Bonds.

“Owner” shall mean a registered owner of the Bonds.

“Participating Underwriter” shall mean any of the original underwriters of the Bonds required to comply with the Rule in connection with offering of the Bonds.

“Rule” shall mean Rule 15c2-12 adopted by the SEC under the Securities Exchange Act of 1934, as the same may be amended from time to time.

“SEC” shall mean the Securities and Exchange Commission.

“State” shall mean the State of California.

Section 3. Provision of Annual Reports.

(a) The Department shall, or shall cause the Dissemination Agent, if the Dissemination Agent is other than the Department, to, not later than 270 days following the end of each Fiscal Year of the Department (which Fiscal Year currently ends on June 30), commencing with the report for Fiscal Year 2020, provide to the MSRB through the EMMA System, in an electronic format and accompanied by identifying information all as prescribed by the MSRB, an Annual Report relating to the immediately preceding Fiscal Year that is consistent with the requirements of Section 4 of this Disclosure Certificate, which Annual Report may be submitted as a single document or as separate documents comprising a package, and may cross-reference other information as provided in Section 4 of this Disclosure Certificate; provided that any audited financial statements may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date. If the Fiscal Year for the Department changes, the Department shall give notice of such change in the same manner as for a Listed Event under Section 5(e).

(b) If in any year, the Department does not provide the Annual Report to the MSRB by the time specified above, the Department shall instead file a notice to the MSRB through the EMMA System stating that the Annual Report has not been timely completed and, if known, stating the date by which the Department expects to file the Annual Report.

(c) If the Dissemination Agent is not the Department, the Dissemination Agent shall:

1. file a report with the Department certifying that the Annual Report has been filed pursuant to this Disclosure Certificate and listing the date(s) of the filing(s); and
2. take any other actions mutually agreed to between the Dissemination Agent and the Department.

Section 4. Content of Annual Reports. The Annual Report shall contain or incorporate by reference the following:

(a) The audited financial statements of the Department's Water System for the prior fiscal year, prepared in accordance with generally accepted accounting principles as promulgated from time to time by GASB and all statements and interpretations issued by the Financial Accounting Standards Board which are not in conflict with the statements issued by GASB. If the Department's Water System audited financial statements are not available by the time the Annual Report is required to be filed pursuant to Section 3(a), the Annual Report shall contain unaudited financial statements and the audited financial statements shall be filed in the same manner as the Annual Report when they become available.

(b) An update of the information contained in the table entitled "Water System—Selected Operating Information" under "OPERATING AND FINANCIAL INFORMATION—Summary of Operations" in the Official Statement, for the most recently completed Fiscal Year.

(c) An update of the information contained in the table entitled "Water System—Summary of Revenues, Expenses and Debt Service Coverage" under "OPERATING AND FINANCIAL INFORMATION—Financial Information" in the Official Statement for the most recently completed Fiscal Year.

Any or all of the items listed above may be included by specific reference to other documents, including official statements of debt issues of the Department or related public entities, that have been submitted to the MSRB through the EMMA System.

Section 5. Reporting of Significant Events.

(a) The Department shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Bonds not later than ten business days after the occurrence of the event:

1. Principal and interest payment delinquencies;
2. Unscheduled draws on debt service reserves reflecting financial difficulties;
3. Unscheduled draws on credit enhancements reflecting financial difficulties;
4. Substitution of credit or liquidity providers, or their failure to perform;
5. An adverse tax opinion or the issuance by the Internal Revenue Service of proposed or final determination of taxability or of a Notice of Proposed Issue (IRS Form 5701 TEB);
6. Tender offers;
7. Defeasances;
8. Rating changes;
9. Bankruptcy, insolvency, receivership or similar event of the obligated person; or
10. Default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the Department, any of which reflect financial difficulties;

Note: for the purposes of the event identified in subparagraph (9), the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for an obligated person in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the obligated person, or if such jurisdiction has been assumed by leaving the existing governmental body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the obligated person.

(b) The Department shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the Bonds, if material, not later than ten business days after the occurrence of the event:

1. Unless described in paragraph 5(a)(5), other material notices or determinations by the Internal Revenue Service with respect to the tax status of the Bonds or other material events affecting the tax status of the Bonds;
2. Modifications to rights of the Owners of the Bonds;
3. Optional, unscheduled or contingent Bond calls;
4. Release, substitution or sale of property securing repayment of the Bonds;
5. Non-payment related defaults;
6. The consummation of a merger, consolidation, or acquisition involving an obligated person or the sale of all or substantially all of the assets of the obligated person, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms;
7. Appointment of a successor or additional trustee or the change of name of a trustee;
or
8. Incurrence of a Financial Obligation of the Department, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the Department, any of which affect security holders;

(c) The Department shall give, or cause to be given, in a timely manner, notice of a failure to provide the annual financial information on or before the date specified in Section 3(a), as provided in Section 3.

(d) Whenever the Department obtains knowledge of the occurrence of a Listed Event described in Section 5(b), the Department shall determine if such event would be material under applicable federal securities laws.

(e) If the Department learns of an occurrence of a Listed Event described in Section 5(a), or determines that knowledge of a Listed Event described in Section 5(b) would be material under applicable

federal securities laws, the Department shall within ten business days of occurrence file a notice of such occurrence with the MSRB through the EMMA System in electronic format, accompanied by such identifying information as is prescribed by the MSRB. Notwithstanding the foregoing, notice of the Listed Event described in subsections (a)(7) or (b)(3) need not be given under this subsection any earlier than the notice (if any) of the underlying event is given to Owners of affected Bonds pursuant to the Bond Resolution.

(f) The Department intends to comply with the Listed Events described in Section 5(a)(10) and Section 5(b)(8), and the definition of “Financial Obligation” in Section 2, with reference to the Rule, any other applicable federal securities laws and the guidance provided by the Commission in Release No. 34-83885 dated August 20, 2018 (the “2018 Release”), and any further amendments or written guidance provided by the Commission or its staff with respect the amendments to the Rule effected by the 2018 Release.

Section 6. Customarily Prepared and Public Information. Upon request, the Department shall provide to any person financial information and operating data regarding the Department which is customarily prepared by the Department and is publicly available at a cost not exceeding the reasonable cost of duplication and delivery.

Section 7. Termination of Obligation. The Department’s obligations under this Disclosure Certificate shall terminate upon the maturity, legal defeasance, prior redemption or payment in full of all of the Bonds. In addition, in the event that the Rule shall be amended, modified or repealed such that compliance by the Department with its obligations under this Disclosure Certificate no longer shall be required in any or all respects, then the Department’s obligations hereunder shall terminate to a like extent. If such termination occurs prior to the final maturity of the Bonds, the Department shall give notice of such termination in the same manner as for a Listed Event under Section 5(e).

Section 8. Dissemination Agent. The Department may, from time to time, appoint or engage a dissemination agent to assist it in carrying out its obligations under this Disclosure Certificate, and may discharge any such dissemination agent, with or without appointing a successor dissemination agent. If at any time there is not any other designated dissemination agent, the Department shall be the dissemination agent. The initial dissemination agent shall be the Department.

Section 9. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Certificate, the Department may amend this Disclosure Certificate, and any provision of this Disclosure Certificate may be waived, provided that, in the opinion of nationally recognized bond counsel, such amendment or waiver is permitted by the Rule. The Department shall give notice of any amendment in the same manner as for a Listed Event under Section 5(e).

Section 10. Additional Information. Nothing in this Disclosure Certificate shall be deemed to prevent the Department from disseminating any other information, using the means of dissemination set forth in this Disclosure Certificate or any other means of communication, or including any other information in any notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Certificate. If the Department chooses to include any information in any notice of occurrence of a Listed Event in addition to that which is specifically required by this Disclosure Certificate, the Department shall not thereby have any obligation under this Disclosure Certificate to update such information or include it in any future notice of occurrence of a Listed Event.

Section 11. Default. In the event of a failure of the Department to comply with any provision of this Disclosure Certificate, any Owner or Beneficial Owner of the Bonds may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the

Department to comply with its obligations under this Disclosure Certificate. A default under this Disclosure Certificate shall not be deemed a default under the Bond Resolution and the sole remedy under this Disclosure Certificate in the event of any failure of the Department to comply with this Disclosure Certificate shall be an action to compel performance. Under no circumstances shall any person or entity be entitled to recover monetary damages hereunder in the event of any failure of the Department to comply with this Disclosure Certificate.

No Owner or Beneficial Owner of the Bonds may institute such action, suit or proceeding to compel performance unless they shall have first delivered to the Department satisfactory written evidence of their status as such, and a written notice of and request to cure such failure, and the Department shall have refused to comply therewith within a reasonable time.

Section 12. Duties, Immunities and Liabilities of Dissemination Agent. Any Dissemination Agent appointed hereunder shall have only such duties as are specifically set forth in this Disclosure Certificate, and shall have such rights, immunities and liabilities as shall be set forth in the written agreement between the Department and such Dissemination Agent pursuant to which such Dissemination Agent agrees to perform the duties and obligations of Dissemination Agent under this Disclosure Certificate.

Section 13. Beneficiaries. This Disclosure Certificate shall inure solely to the benefit of the Department, the Dissemination Agent, if any, the Participating Underwriter and the Owners and Beneficial Owners from time to time of the Bonds, and shall create no rights in any other person or entity. This Disclosure Certificate is not intended to create any monetary rights on behalf of any person based upon the Rule.

Section 14. Partial Invalidity. If any one or more of the agreements or covenants or portions thereof required hereby to be performed by or on the part of the Department shall be contrary to law, then such agreement or agreements, such covenant or covenants or such portions thereof shall be null and void and shall be deemed separable from the remaining agreements and covenants or portions thereof and shall in no way affect the validity hereof, and the Beneficial Owners of the Bonds shall retain all the benefits afforded to them hereunder. The Department hereby declares that it would have executed and delivered this Disclosure Certificate and each and every other article, section, paragraph, subdivision, sentence, clause and phrase hereof irrespective of the fact that any one or more articles, sections, paragraphs, subdivisions, sentences, clauses or phrases hereof or the application thereof to any person or circumstance may be held to be unconstitutional, unenforceable or invalid.

Section 15. Governing Law. This Disclosure Certificate was made in the City of Los Angeles and shall be governed by, interpreted and enforced in accordance with the laws of the State of California and the City of Los Angeles, without regard to conflict of law principles. Any litigation, action or proceeding to enforce or interpret any provision of this Disclosure Certificate or otherwise arising out of, or relating to this Disclosure Certificate, shall be brought, commenced or prosecuted in a State or Federal court in the County of Los Angeles in the State of California. By its acceptance of the benefits hereof, any person or entity bringing any such litigation, action or proceeding submits to the exclusive jurisdiction of the State of California and waives any defense of forum non conveniens.

IN WITNESS WHEREOF, the Department has executed this Disclosure Certificate this 1st day of July, 2020.

DEPARTMENT OF WATER AND POWER OF THE
CITY OF LOS ANGELES

By: _____
Chief Financial Officer

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APPENDIX G

GLOSSARY OF DEFINED TERMS

The following terms used in this Official Statement and not defined in the Bond Resolution (see “APPENDIX D—SUMMARY OF CERTAIN PROVISIONS OF THE BOND RESOLUTION—CERTAIN DEFINITIONS” for terms defined in the Bond Resolution) have the meanings specified in this Appendix G.

“AB 850” means Assembly Bill 850, which was sponsored by the Department and was adopted by the State Legislature and signed by Governor Brown in October 2013, as amended by Assembly Bill 305, which was adopted by the State Legislature and signed by Governor Newsom in September 2019.

“Base Rates” means the base rates established under the Water Rate Ordinance.

“Base Rate Revenue Target Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Bay-Delta” means the San Francisco Bay/Sacramento-San Joaquin River Delta.

“Board Action” means an action by a City commission or board.

“Bond Counsel” means Orrick, Herrington & Sutcliffe LLP, bond counsel to the Department for the Series A Bonds.

“California Aqueduct” means the approximately 444-mile Edmund G. Brown California Aqueduct that delivers Northern California water to Southern California.

“cfs” means cubic feet per second.

“Chromium 6” means hexavalent chromium.

“Civil Service System” means the Charter-established civil service system.

“CMUA” means the California Municipal Utilities Association.

“Colorado River Aqueduct” means an aqueduct owned and operated by Metropolitan that delivers Colorado River water to Southern California.

“Department” means the Department of Water and Power of the City of Los Angeles.

“Department Investment Committee” means the Investment Committee for the Department’s Trust Funds, comprised of the City Controller, a Board member designated by the Board President, the General Manager and the Chief Financial Officer.

“Department of Water Resources” means the California Department of Water Resources.

“Division of Drinking Water” means the Division of Drinking Water of the State Water Resources Control Board.

“DTC” means The Depository Trust Company, New York, New York.

“EMMA” means the MSRB’s Electronic Municipal Market Access system.

“EPA” means the United States Environmental Protection Agency.

“Federal Surface Water Treatment Rule” means the Federal Surface Water Treatment Rule, issued by the EPA in 1989 under the Safe Drinking Water Act Amendments of 1986.

“FEMA” means the Federal Emergency Management Agency.

“Filtration Plant” means the Los Angeles Aqueduct Filtration Plant.

“First Los Angeles Aqueduct” means the Los Angeles Owens River Aqueduct, a 233-mile gravity-flow aqueduct from the Owens River, near the town of Independence, California to the City.

“GASB No. 68” means Governmental Accounting Standards Board Statement No. 68, Accounting and Financial Reporting for Pension – an amendment of GASB Statement No. 27.

“GBUAPCD” means the Great Basin Unified Air Pollution Control District.

“Healthcare Benefits” means the healthcare benefits the Department provides to its active and retired employees and their dependents.

“IBEW” means the International Brotherhood of Electrical Workers.

“Lead and Copper Rule” means the EPA regulations related to the control of lead and copper in drinking water.

“Los Angeles Aqueduct” means the First Los Angeles Aqueduct and the Second Los Angeles Aqueduct.

“Low-Income Subsidy Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Master Resolution” means Resolution No. 4591, adopted by the Board on February 6, 2001.

“Mayor’s Executive Directive” means the Executive Directive issued by Mayor Eric Garcetti on October 14, 2014, related to actions to be taken in response to drought conditions.

“Metropolitan” means the Metropolitan Water District of Southern California.

“MSRB” means the Municipal Securities Rulemaking Board.

“NHOU-1IR” means the North Hollywood Operable Unit Initial Interim Remedy.

“NHOU-2IR” means the North Hollywood Operable Unit Second Interim Remedy.

“OPA” means the City’s Office of Public Accountability.

“Owens Valley Regulatory Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Pass-Through Adjustments” means the pass-through adjustments to provide revenues with respect to special categories of expenses under the Water Rate Ordinance.

“Paying Agent” means U.S. Bank National Association.

“PCE” means perchloroethylene, also known as tetrachlorethene.

“Previous Water Rate Ordinance” means the Water Rate Ordinance that was replaced with the current Water Rate Ordinance that became effective on April 15, 2016.

“Proposition 218” means Proposition 218, also known as the “Right to Vote on Taxes Act,” that was approved by the voters of the State on November 5, 1996.

“PRPs” means potentially responsible parties.

“Ratepayer Advocate” means the Executive Director of the OPA.

“Rate Reduction Bonds” means the bonds to be issued by the Water JPA and secured by a separately imposed utility project charge that will be imposed by the Water JPA on the customers of the Department.

“Retirement Plan” means the Water and Power Employees’ Retirement, Disability, and Death Benefit Insurance Plan, a retirement system of employee benefits and includes the Water and Power Employees’ Retirement Fund.

“S&P” means S&P Global Ratings, a division of Standard & Poor’s Financial Services LLC.

“SCPPA” means the Southern California Public Power Authority.

“SDCWA” means the San Diego County Water Authority.

“SEC” means the United States Securities and Exchange Commission.

“Second Los Angeles Aqueduct” means the Second Los Angeles Owens River Aqueduct, a 137-mile aqueduct from Haiwee Reservoir, just south of Owens Lake to the City.

“Seismic Resilience Program” means the Department’s Water Seismic Resilience and Sustainability Program.

“Series A Bonds” means the Department of Water and Power of the City of Los Angeles Water System Revenue Bonds, 2020 Series A.

“State of Emergency” means a statewide drought state of emergency declaration by the Governor of the State.

“State Water Project” means the 550-mile water delivery system owned by the State and operated by the Department of Water Resources.

“State Water Resources Control Board” means the California State Water Resources Control Board.

“TCE” means trichloroethylene.

“Trust Funds Investment Policy” means the Department’s Trust Funds Investment Policy.

“Underwriters” means the underwriters listed on the front cover of this Official Statement.

“2015 UWMP” means the Department’s 2015 Urban Water Management Plan.

“Water Expense Stabilization Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Water JPA” means Southern California Public Water Authority, a California joint powers authority.

“Water Quality Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Water Rate Ordinance” means the City ordinance approving the rates and charges for water and water services provided by the Department. The current Water Rate Ordinance was enacted by the City Council on March 15, 2016 and became effective on April 15, 2016.

“Water Rates” means the rates for water and water services from the Water System as set forth in the Water Rate Ordinance.

“Water Revenue Adjustment” means one of the Pass-Through Adjustments that existed under the Previous Water Rate Ordinance. The Water Revenue Adjustment factor was replaced by the Base Rate Revenue Target Adjustment under the current Water Rate Ordinance.

“Water Supply Cost Adjustment” means one of the Pass-Through Adjustments established under the Water Rate Ordinance.

“Wells Fargo Credit Agreement” means the Amended and Restated Revolving Credit Agreement, dated as of December 1, 2018, between the Department and Wells Fargo Bank, National Association.



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